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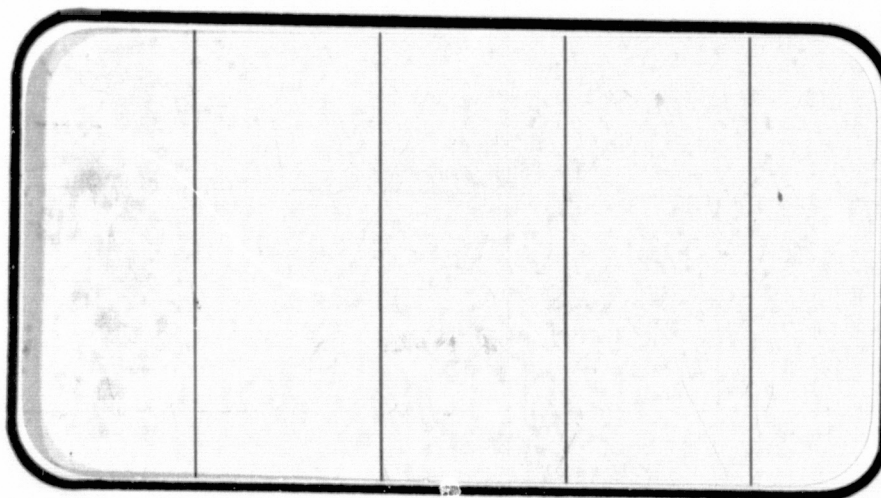
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# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NASA CR-

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(NASA-CR-141826) RESULTS OF AN  
INVESTIGATION OF THE 0.003-SCALE SPACE  
SHUTTLE EXTERNAL TANK MSFC MODEL 460 IN  
NASA/MSFC 14 X 14-INCH TRISONIC WIND TUNNEL  
TO DETERMINE STATIC PRESSURE DISTRIBUTIONS

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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANAGEMENT services

SPACE DIVISION



CHRYSLER  
CORPORATION



November, 1975

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NASA CR-141,826

VOLUME 4 OF 5

RESULTS OF AN INVESTIGATION OF THE 0.003-SCALE  
SPACE SHUTTLE EXTERNAL TANK MSFC MODEL 460  
IN THE NASA/MSFC 14 X 14-INCH TRISONIC WIND TUNNEL  
TO DETERMINE STATIC PRESSURE DISTRIBUTIONS DURING  
REENTRY (TA2F)

by

P. E. Ramsey, MSFC  
G. W. Winkler, NSI

Prepared under NASA Contract Number NAS9-13247

by

Data Management Services  
Chrysler Corporation Space Division  
New Orleans, La. 70189

for

Engineering Analysis Division  
Johnson Space Center  
National Aeronautics and Space Administration  
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: MSFC TWT 596  
NASA Series Number: TA2F  
Model Number: 460  
Test Dates: July 20-23, 1974  
Occupancy Hours: 104

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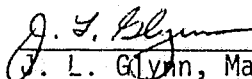
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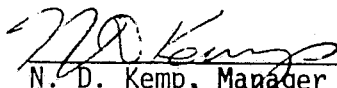
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RESULTS OF AN INVESTIGATION OF AN 0.003-SCALE  
SPACE SHUTTLE EXTERNAL TANK MSFC MODEL 460 IN THE  
NASA/MSFC 14 x 14-INCH TRISONIC WIND TUNNEL TO  
DETERMINE STATIC PRESSURE DISTRIBUTIONS DURING REENTRY  
(TA2F)

by

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ABSTRACT

Objective of the test was to obtain static pressure distributions for the ET at reentry conditions. Basic configuration of the model was the MCR 0200 ET modified to include a rectangular crossbar at the aft ET/orbiter attach point. Mach numbers were 1.96, 3.48, and 4.96. Reynolds number per foot at these Mach numbers were 6.95 million, 6.42 million, and 4.95 million, respectively. Angle of attack range was -8 to 100 degrees and roll angle was 0 to 315 degrees. Occupancy hours were 104.

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### SCHEDULE OF COEFFICIENTS PLOTTED:

- A) CP vs. X/LB
- B) CP vs. THETA
- C) D<sub>CNM</sub>/D(X/LB) vs. X/LB
- D) D<sub>CYM</sub>/D(X/LB) vs. X/LB
- E) CNM vs. ALPHA  
CLMM  
CYM  
CYNM

# NOMENCLATURE

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>	<u>Units</u>
a		speed of sound	m/sec, ft/sec
A <sub>b</sub>		base area; cross-sectional area of the cylindrical ET	in. <sup>2</sup>
b <sub>ref</sub>	BREF	reference span; diameter of the cylindrical section of the model	in.
ET		external tank	
F <sub>A</sub>		axial force (AF), positive in the negative direction of x <sub>m</sub>	lb
F <sub>N</sub>		normal force (NF), positive in the negative direction of z <sub>m</sub>	lb
F <sub>y</sub>		side force (SF), positive in the positive direction of y <sub>m</sub>	lb
l <sub>B</sub>	LBODY	length of the ET	in.
l <sub>ref</sub>	LREF	reference length; diameter of the cylindrical section of the model	in.
M	MACH	Mach number; V/a	
MRP	MRP	moment reference point located in the x <sub>m</sub> , y <sub>m</sub> , z <sub>m</sub> axes by XMRP, YMRP, and ZMRP (See Data Reduction section)	
M <sub>x</sub>		rolling moment (RM); a moment about the x <sub>m</sub> axis (a positive rolling moment tends to rotate the positive y <sub>m</sub> axis toward the positive z <sub>m</sub> axis)	in.-lb
M <sub>y</sub>		pitching moment (PM); a moment about the y <sub>m</sub> axis (a positive pitching moment tends to rotate the positive z <sub>m</sub> axis toward the positive x <sub>m</sub> axis)	in.-lb
c g		center of gravity	

# NOMENCLATURE (Continued)

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>	<u>Units</u>
$M_z$		yawing moment (YM); a moment about the $z_m$ axis (a positive yawing moment tends to rotate the positive $x_m$ axis toward the positive $y_m$ axis)	in.-lb
$p_\infty$	P	pressure, freestream	psi
$p_o$	P0	stagnation pressure	psi
$q_\infty$	Q(PSI)	free stream dynamic pressure	psi
$S_{ref}$	SREF	reference area; cross-sectional area of the cylindrical section of the model	in. <sup>2</sup>
RN/L	RN/L	unit Reynolds number	per m, per ft
SRB		solid rocket booster	
V		velocity	m/sec, ft/sec
$x_m, y_m, z_m$		missile axis system (see Data Reduction section)	
X		distance from nose of ET model in the negative $x_m$ direction	in.
$x_T, y_T, z_T$		model stations; (see figure 2a)	in.
$x_{CP}/\ell_B$	XCP/L	longitudinal position of the center of pressure, expressed as a fraction of the ET length, measured from the ET nose	
$\frac{x_{CP}}{\ell_B} = \frac{x_{MRP}}{\ell_B} - \frac{C_{m_m}}{C_{N_m}} \frac{\ell_{ref}}{\ell_B}$			
$\bar{c}$		aerodynamic chord	m, ft
COEFFICIENTS			
$C_{A_m}$	CA	axial force coefficient; $F_A/q S_{ref}$	



# NOMENCLATURE (Continued)

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>	<u>Units</u>
$C_{A_{b_m}}$	CAB	base axial force coefficient; $(p_\infty - p_b) A_B / q S_{ref}$	
$C_{A_f}$	CAF	forebody axial force coefficient; $C_{A_m} - C_{A_{b_m}}$	
$C_{\ell_m}$	CBL	rolling moment coefficient; $M_x / q S_{ref} b_{ref}$	
$C_{m_m}$	CLMM	pitching moment coefficient; $M_y / q S_{ref} \ell_{ref}$	
$C_{N_m}$	CNM	normal force coefficient; $F_N / q S_{ref}$	
$C_{n_m}$	CYNM	yawing moment coefficient; $M_z / q S_{ref} b_{ref}$	
$C_p$	CP	pressure coefficient; $(p - p_\infty) / q$	
$C_{Y_m}$	CYM	side force coefficient; $F_y / q S_{ref}$	
$C_{N'_m}$	DCN/DX	local normal force coefficient; $\partial C_N / \partial (X/D)$	
$C_{Y'_m}$	DCY/DX	local side force coefficient; $\partial C_Y / \partial (X/D)$	
SYMBOLS			
$\alpha$	ALPHA	angle of attack	deg.
$\beta$	BETA	angle of sideslip	deg.
$\phi$	PHI	angle of roll	deg.
$\psi$	PSI	angle of yaw	deg.

# NOMENCLATURE (Concluded)

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>	<u>Units</u>
$\theta$	THETA	circumferential location	deg.
$\rho$		mass density	kg/m <sup>3</sup> , slugs/ft <sup>3</sup>
ref		reference conditions	
$\infty$		free stream conditions	
b		base	
c		cavity	
t		total conditions	
B		model body	
T		external tank	
m		missile axis system	
l		local	
s		static conditions	
	MOUNT	1.0 indicates tail mounted ( $T_1$ ) 2.0 indicates side mounted ( $T_2$ )	

## INTRODUCTION

After the solid rocket boosters and the external tank separate from the orbiter, the ET will reenter the earth's atmosphere at high supersonic or even hypersonic Mach numbers. This test is the second of two tests conducted in the NASA-MSFC 14-inch Trisonic Wind Tunnel to obtain force and pressure data on the 324-inch diameter ET at typical reentry angles of attack.

Model (MSFC No. 460) configuration is a 0.003-scale representation of the ET with fuel lines and forward and aft SRB and orbiter attach hardware. Also included is the ET/orbiter rectangular crossbar attach structure.

Pressure taps (192 total) were used to obtain data for evaluating the load distribution on the ET. Further evaluation of the ET aerodynamic characteristics can be made by comparing data from this test with data from TWT 583 (reference 4).

Pressure data were taken at three Mach numbers: 1.96, 3.48, and 4.96. Angle of attack range was -8 to 100 degrees, which was obtained by using two ET model mountings. Range -8 to 30 degrees used a tail-mounted model ( $T_1$ ) for each of eight roll positions, 0 to 315 degrees. This model had attach structure and protuberances. For the range of 51 to 100 degrees, a side-mounted model ( $T_2$ ) at 0° roll position was used.

## MODEL DESCRIPTION

The model is a 0.003-scale of the MCR 0200 space shuttle ET configuration modified to include a crossbar at the aft orbiter/ET attach points. General arrangement of the model is shown in figure 2a. The model is designated MSFC #460, and it consists of two ET models (one tail-mounted and one side-mounted); protuberances simulating fuel lines, attachment hardware, etc.; and model adapters which allowed the tanks to be supported in the tunnel on RI stings #1 and #3. The models were built by NASA to conform to the configuration specified by Rockwell International drawing VL78-000041B (Reference Drawing 6) and Martin-Marietta memo SA-A-74-9 (Reference Report 2).

Both ET models were made of stainless steel and contained 192 pressure orifices each. From these orifices, stainless steel and annealed 0.032-inch OD tubing was routed out the base (or the side) of the model. Four feet of 0.050-inch OD tubing was brazed onto each of the 0.032-inch tubes as close to the exit cavity as possible.

When placed in the tunnel test section, the tubing bundle from the model was secured along the sting and routed down the sector through the tunnel floor. At this point, Tygon tubing was used to connect the steel tubing to quick disconnects, which were connected to the scanivalves. Installation photographs for the tail mounted ( $T_1$ ) and side mounted ( $T_2$ ) models are in figures 3a and 3b, respectively.

Model stations are sometimes used to describe locations of various components of the model. When used, these stations will be given in

#### MODEL DESCRIPTION (Concluded)

inches model scale and the zero reference points will be same as in Rockwell International drawing VL72-000088"D" (Reference Drawing 2). Zero reference points are shown in figure 2a.



## CONFIGURATIONS INVESTIGATED

Two ET configurations investigated are defined as follows:

T<sub>1</sub>--MCR 0200 tail-mounted, modified to include crossbar configuration with protuberances.

T<sub>2</sub>--MCR 0200 side-mounted, "clean" configuration (without protuberances).

Each of the configurations consists of the following model components:

T<sub>1</sub>--T<sub>12</sub> AT<sub>5</sub> AT<sub>6</sub> AT<sub>7</sub> AT<sub>8</sub> AT<sub>9</sub> PT<sub>1</sub> PT<sub>2</sub> PT<sub>3</sub> FL<sub>1</sub> FL<sub>2</sub> FR<sub>6</sub>

T<sub>2</sub>--T<sub>12</sub>

Brief descriptions of each component are below. Refer to table III for dimensional data.

T <sub>12</sub>	Baseline 324-inch diameter external oxygen-hydrogen tank
AT <sub>5</sub>	Forward orbiter/ET attach structure
AT <sub>6</sub>	Left rear orbiter/ET attach structure
AT <sub>7</sub>	Right rear orbiter/ET attach structure
AT <sub>8</sub>	Forward SRB/ET attach structure
AT <sub>9</sub>	Aft SRB/ET attach structure
PT <sub>1</sub>	LOX vent line fairing
PT <sub>2</sub>	LOX feed line
PT <sub>3</sub>	LH <sub>2</sub> feed line
FL <sub>1</sub>	LOX feed line
FL <sub>2</sub>	LH <sub>2</sub> feed line
FR <sub>6</sub>	Aft ET/orbiter crossbar

## TEST FACILITY DESCRIPTION

The Marshall Space Flight Center 14" x 14" Trisonic Wind Tunnel is an intermittent blowdown tunnel which operates by high pressure air flowing from storage to either vacuum or atmospheric conditions. A Mach number range from .2 to 5.85 is covered by utilizing two interchangeable test sections. The transonic section permits testing at Mach 0.20 through 2.50, and the supersonic section permits testing at Mach 2.74 through 5.85. Mach numbers between .2 and .9 are obtained by using a controllable diffuser. The range from .95 to 1.3 is achieved through the use of plenum suction and perforated walls. Mach numbers of 1.44, 1.93 and 2.50 are produced by interchangeable sets of fixed contour nozzle blocks. Above Mach 2.50 a set of fixed contour nozzle blocks is tilted and translated automatically to produce any desired Mach number in .25 increments.

Air is supplied to a 6000 cubic foot storage tank at approximately -40°F dew point and 500 psi. The compressor is a three-stage reciprocating unit driven by a 1500 hp motor.

The tunnel flow is established and controlled with a servo actuated gate valve. The controlled air flows through the valve diffuser into the stilling chamber and heat exchanger where the air temperature can be controlled from ambient to approximately 180°F. The air then passes through the test section which contains the nozzle blocks and test region.

Downstream of the test section is a hydraulically controlled pitch sector that provides a total angle of attack range of 20° ( $\pm 10^\circ$ ). Sting offsets are available for obtaining various maximum angles of attack up to 95°.

## TEST FACILITY DESCRIPTION (Concluded)

The diffuser section has movable floor and ceiling panels which are the primary means of controlling the subsonic Mach numbers and permit more efficient running supersonically. The sector assembly and supersonic diffuser telescope into the subsonic diffuser to allow easy access to the model and test section.

Tunnel flow is exhausted through an acoustically damped tower to atmosphere or into the vacuum field of 42,000 cubic feet. The vacuum tanks are evacuated by vacuum pumps driven by a motor of 500 hp.

Data are recorded by a solid-state digital data acquisition system. The digital data are transferred to punched cards during the run to be reduced later by a computer to proper coefficient form.

## TEST PROCEDURE

First part of the test was conducted using a side-mounted, "clean" configuration ( $T_2$  without protuberances). Since it was a "clean" configuration, the roll angle was considered to always be 0 degrees. Angle of attack range was from 51 to 100 degrees in increments of 3 degrees. Data were obtained at Mach numbers of 1.96, 3.48, and 4.96.

Second part of the test consisted of using a tail-mounted model with attach hardware, fuel lines, and electrical tunnel. Angle of attack range was from -8 to 30 degrees in increments of 4 degrees. Data were obtained at eight roll positions, 0 to 315 degrees in 45-degree increments. All orifices and tubing were checked for leakage at the beginning of the test and after each roll position change. A leak check after rolling the model insured that correct measurements were being received from the orifices. Response time for the scanivalve function was within the one-second intervals allowed each scanivalve.

List of average test conditions is in table I. Dataset run number collation summary is in table II.

## DATA REDUCTION

Location of each pressure orifice and the numbering system are presented in tables IV and V. Also special identification of blocked or inoperative pressure orifices is made for both tail-mounted and side-mounted models in these tables. Locations of these orifices are shown in figure 2b.

Sting deflections were measured outside the tunnel by using check weights. Sting deflections versus load curve for the pressure test (TWT 596) was found to be the same, within allowable accuracy, as that of the force test (TWT 583). The same ET configuration and only slightly different support hardware were used in both force and pressure tests. Increments of  $\alpha$  due to sting bending in the force test were added to the nominal  $\alpha$ 's for the pressure test. This gave reasonably accurate values of angle of attack, accuracy comparable to force test, when the pressure model was tested at the same Mach number and tunnel total pressure as the force model.

Pressure data were reduced to coefficient form and are tabulated along with wind tunnel parameters, configuration, and run number in the appendix. Plots are presented for both longitudinal and circumferential pressure distributions ( $C_p$  vs  $X/\lambda_B$  and  $C_p$  vs  $\theta$ ). These plots are shown for each Mach number, angle of attack, and roll position at which tests were conducted. In addition, the pressure coefficients were integrated to obtain the following missile axis force and moment coefficients:



## DATA REDUCTION (Concluded)

$C_{N_m} = F_N/q S_{ref}$	normal force coefficient
$C_{Y_m} = F_Y/q S_{ref}$	side force coefficient
$C_{m_m} = M_Y/q S_{ref} l_{ref}$	pitching moment coefficient
$C_{n_m} = M_Z/q S_{ref} b_{ref}$	yawing moment coefficient
$C_{N'_m} = \partial C_N / \partial (X/D)$	local normal force coefficient
$C_{Y'_m} = \partial C_Y / \partial (X/D)$	local side force coefficient

Force and moment coefficients obtained from the integration of pressures are for comparison with the results from the force test.

Model reference dimensions used in the data reduction are presented in table VI. The axis system diagram is presented in figure 1. The missile axis system ( $x_m, y_m, z_m$ ) is a non-rolling body axis system that is frequently used in wind tunnel tests and studies of missile flight dynamics. It is a system of axes that rotates with a missile or wind tunnel model through angles of sideslip and angles of attack but never through angles of roll; i.e., it never rotates about the missile or model longitudinal axis. The orientation of the missile axis coefficients is defined in figure 1. The missile axis system is identical with the body axis system at zero roll angle.

Moment reference point (MRP) for the 0.003-scale model is taken to be at the dry weight center of gravity of the ET. For the full-scale ET, the center of gravity is located at  $X_T = 1395.4$  inches. Thus, the MRP for the 0.003-scale ET model is 3.259 inches from the model nose, on the centerline (figure 2a).

## REFERENCES

1. NASA TMX-53185, "The George C. Marshall Space Flight Center's 14 x 14 Inch Trisonic Wind Tunnel Technical Handbook," Simon, Erwin; December 1964.
2. SA-A-74-9, "Space Shuttle External Tank Entry Force and Moment Wind Tunnel Test Requirements," Michna, D. J., Michoud Operations, Martin Marietta Corporation, February 1974.
3. NSI-M-9230-74-270, "A Pre-test Report for MSFC TWT 596, An Investigation to Determine the Static Pressure Distributions During Reentry of a 0.003-scale Modified MCR 200 Space Shuttle External Tank Model in the NASA-MSFC 14 x 14-Inch Trisonic Wind Tunnel," Robertson, M, K. and Winkler, G. W., April 1974.
4. DMS-DR-2145, NASA CR-134,420, "Static Stability Characteristics of the Space Shuttle External Tank (MSFC Model 458) During Reentry in the MSFC 14-inch TWT (TAIF)," by Ramsey, Paul E., Robertson, Michael K., and Winkler, Gary W. October 1974.

## REFERENCE DRAWINGS

1. VL72-000106, 8-6-73; SRB to ET Aft Attach, Approved Link Concept, Shuttle Study; Rockwell International.
2. VL72-000088 "D", 8-3-73; Shuttle Configuration Control, MCR 0200 Baseline Rev. III, Dated 7-2-73; Rockwell International.
3. VL78-000031 "A", 6-29-73; Thermal Protection-External Tank MCR 0200 Baseline Dated 4-11-73; Rockwell International.
4. VL77-000051 "A", 9-10-73; SRB Single PT.-Fwd Thrust Fitting (MCR 0190 Rev. 3 Baseline 8-13-73); Rockwell International.
5. SS-A01176 (Wind Tunnel Model Group); Details - .015 Scale EOHT Attachments (140 A/B) (67-OTS) 11-20-73; Rockwell International.
6. VL78-000041 "B", 5-30-73; External Tank Configuration Control MCR 0200 Revision 1 Dated 5-16-73; Rockwell International.

Table I.

[illegible]

TABLE II.

TEST: MSFC TWT 596				DATA SET/RUN NUMBER COLLATION SUMMARY												DATE: 26 / 1974	
DATA SET IDENTIFIER		CONFIGURATION	SCHD. PARAMETERS/VALUES				NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )									
			$\alpha$	$\beta$	REF. SET	MT.		$\phi$	TAIL	0	196	348	496				
R1A001	T <sub>1</sub> (TAIL MOUNTED)	0	0	0	0	0	3	86	140	139							
002	E.T. WITH	-4					3	87	137	138							
003	PROTUBERANCES	0					5	88	136	135							
004		4					3	89	133	134							
005		8					5	90	132	131							
006		12			20		3	85	141	142							
007		16					3	84	144	143							
008		20					3	83	145	146							
009		24					3	82	148	147							
010		28					3	81	149	150							
011		-8		0			3	80	170	169							
012		-4					3	79	167	168							
013		0					3	78	166	165							
014		4					3	77	163	164							
015		8					3	76	162	161							
016		12		20			3	75	159	160							
017		16					3	74	158	157							
R1A018		20					3	73	155	156							
1	7	13	19	25	31	37	43	49	55	61	67	75	76				
COEFFICIENTS														IDVAR (1)	IDVAR (2)	NDV	
α OR β																	
SCHEDULES																	

DATE: July 1974

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DATE: July 1, 1974

MSFC - Form 962-3 (Rev. May 1973)

TABLE II. (Continued)

[illegible]

TABLE II. (Continued)

TEST: MSFC TWT 596

DATE: July 1974

DATA SET/RUN NUMBER COLLATION SUMMARY

DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES			NO. OF RUNS	MACH NUMBERS ( OR ALTERNATE INDEPENDENT VARIABLE )				TEST RUN NUMBERS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
		$\alpha$	$\beta$	OFF SET	MT.	$\phi$		1.96	3.48	4.96	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
R1A 061	T <sub>2</sub> (SIDE-MOUNTED)	51	0	LO	SIDE	Q	C	3	3	60	V1	2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								



TABLE II. (Continued)

DATE: May 1974

## DATA SET/RUN NUMBER COLLATION SUMMARY

TEST: ASFC TWT 596

[illegible]

TEST: MSFC TWT 59%

## DATA SET/RUN NUMBER COLLECTION SUMMARY

DATE: 3/1/54

[illegible]

α OR β

## SCHEDULES

### COEFFICIENTS

\_\_\_\_\_

TABLE II. (Concluded)

DATE: July 1964

## DATA SET/RUN NUMBER COLLATION SUMMARY

TEST: MSFC TWT 596

[illegible]

TABLE III. MODEL DIMENSIONAL DATA

MODEL COMPONENT: EXTERNAL TANK - T<sub>12</sub>

GENERAL DESCRIPTION: EXTERNAL OXYGEN - HYDROGEN TANK WITH OGIVE NOSE AND

SEMI-ELLIPTICAL TAIL. BEGINNING AT MODEL TANK STATION 0.927 AND ENDING AT STATION

6.522

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000041B

<u>DIMENSIONS:</u>	THEORETICAL	
	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	<u>1865 in.</u>	<u>5.595 in.</u>
Max. Width	<u>324 in.</u>	<u>0.972 in.</u>
Fineness Ratio	<u>5.756 in.</u>	<u>5.756 in.</u>
Max. Cross-Sectional	<u>572.555 ft<sup>2</sup></u>	<u>0.742 in.<sup>2</sup></u>
Base	<u>572.555 ft<sup>2</sup></u>	<u>0.742 in.<sup>2</sup></u>
WL OF TANK CENTERLINE	<u>400 in.</u>	<u>1.200 in.</u>

TABLE III. (Continued)

MODEL COMPONENT: ATTACH STRUCTURE - AT<sub>5</sub>

GENERAL DESCRIPTION: FORWARD ORBITER/ET ATTACH STRUCTURE

(2 MEMBERS)

MODEL SCALE: 0.003

REFERENCE DRAWING: VL72-000088D

ALL DIMENSIONS IN INCHES MODEL SCALE

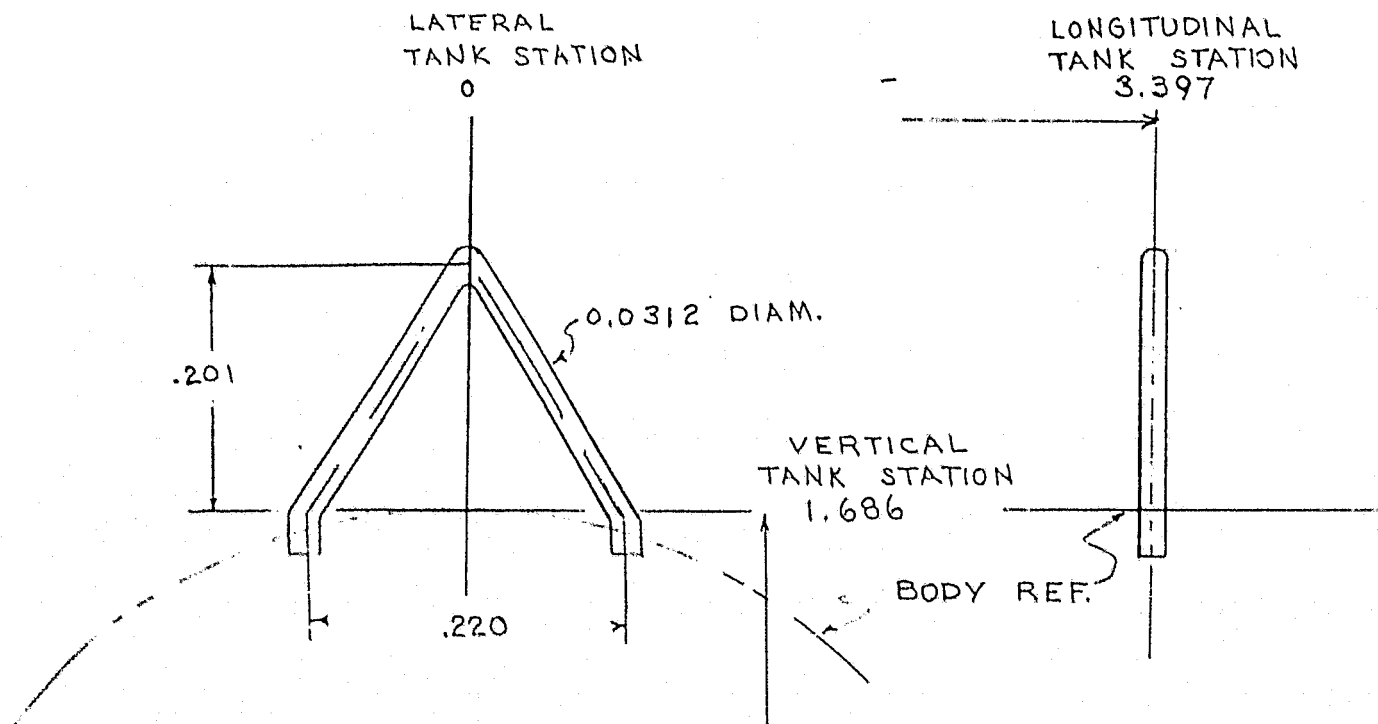


TABLE III. (Continued)

MODEL COMPONENT: ATTACH STRUCTURE - AT<sub>6</sub>

GENERAL DESCRIPTION: LEFT REAR ORBITER/ET ATTACH STRUCTURE (2 MEMBERS)

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000050

ALL DIMENSIONS IN INCHES MODEL SCALE

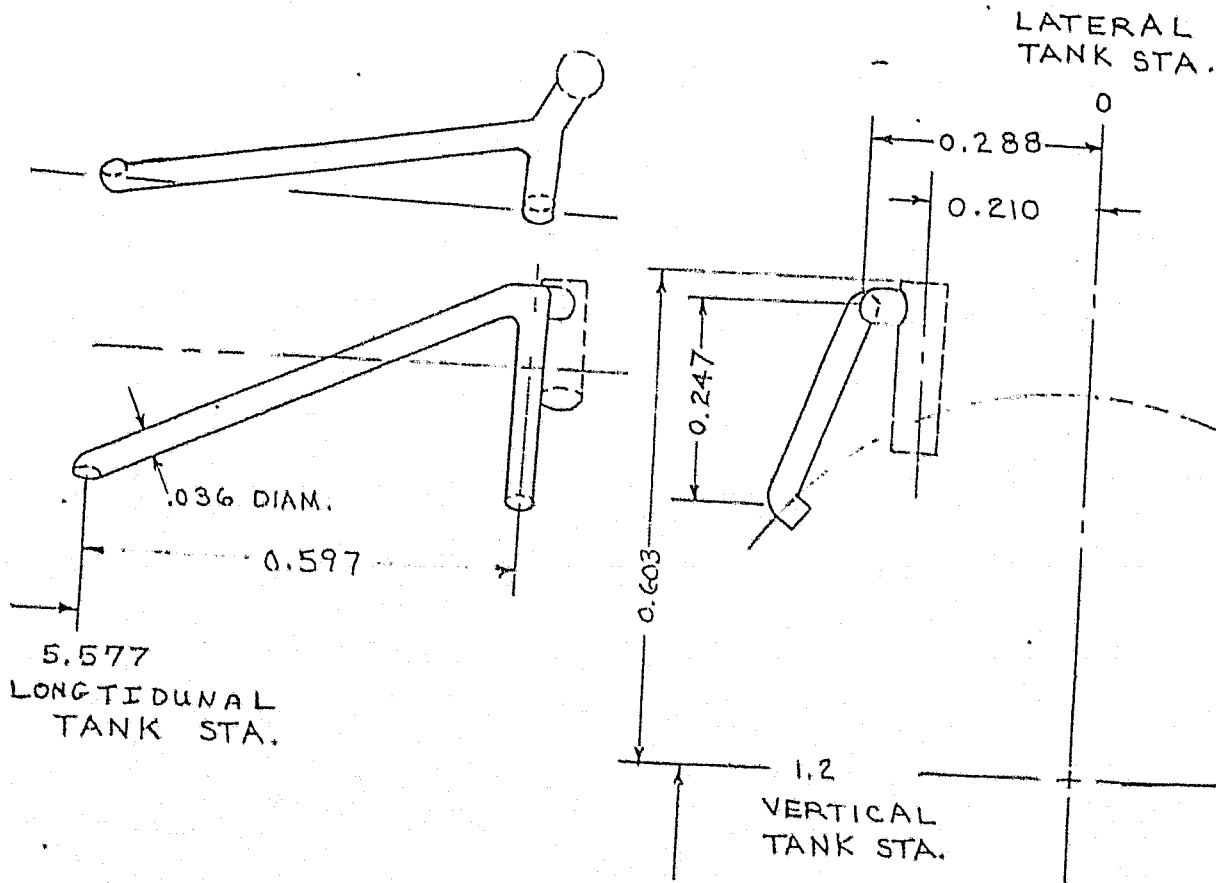


TABLE III. (Continued)

MODEL COMPONENT: ATTACH STRUCTURE - AT<sub>7</sub>

GENERAL DESCRIPTION: RIGHT REAR ORBITER/ET ATTACH STRUCTURE (3 MEMBERS)

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000050

ALL DIMENSIONS IN INCHES MODEL SCALE

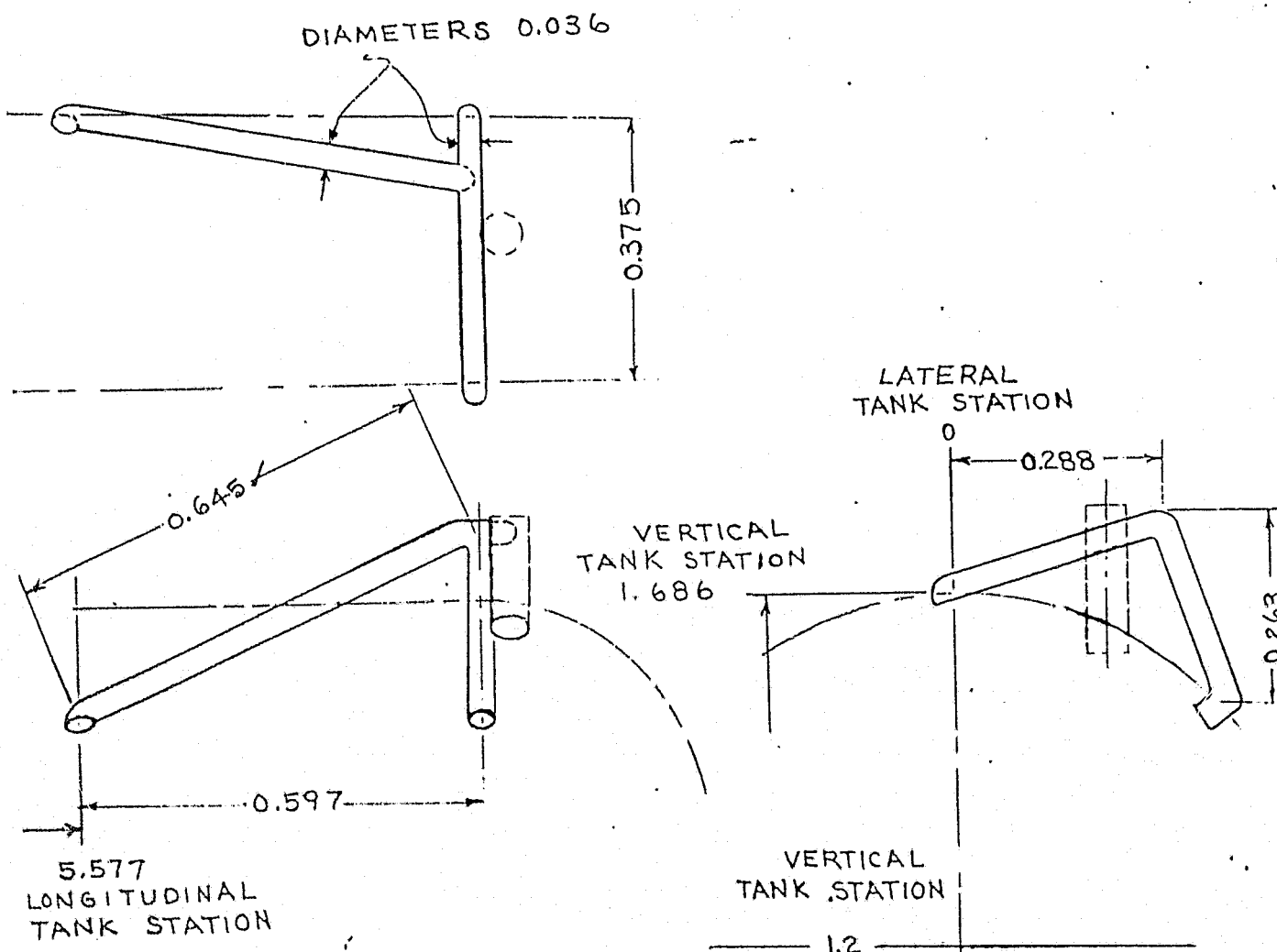


TABLE III. (Continued)

MODEL COMPONENT: ATTACH STRUCTURE - AT<sub>g</sub>

GENERAL DESCRIPTION: FORWARD SRB/ET ATTACH STRUCTURE (ET PORTION TESTED ONLY)

MODEL SCALE: 0.003

REFERENCE DRAWING: VL77-000051A

ALL DIMENSIONS IN INCHES MODEL SCALE

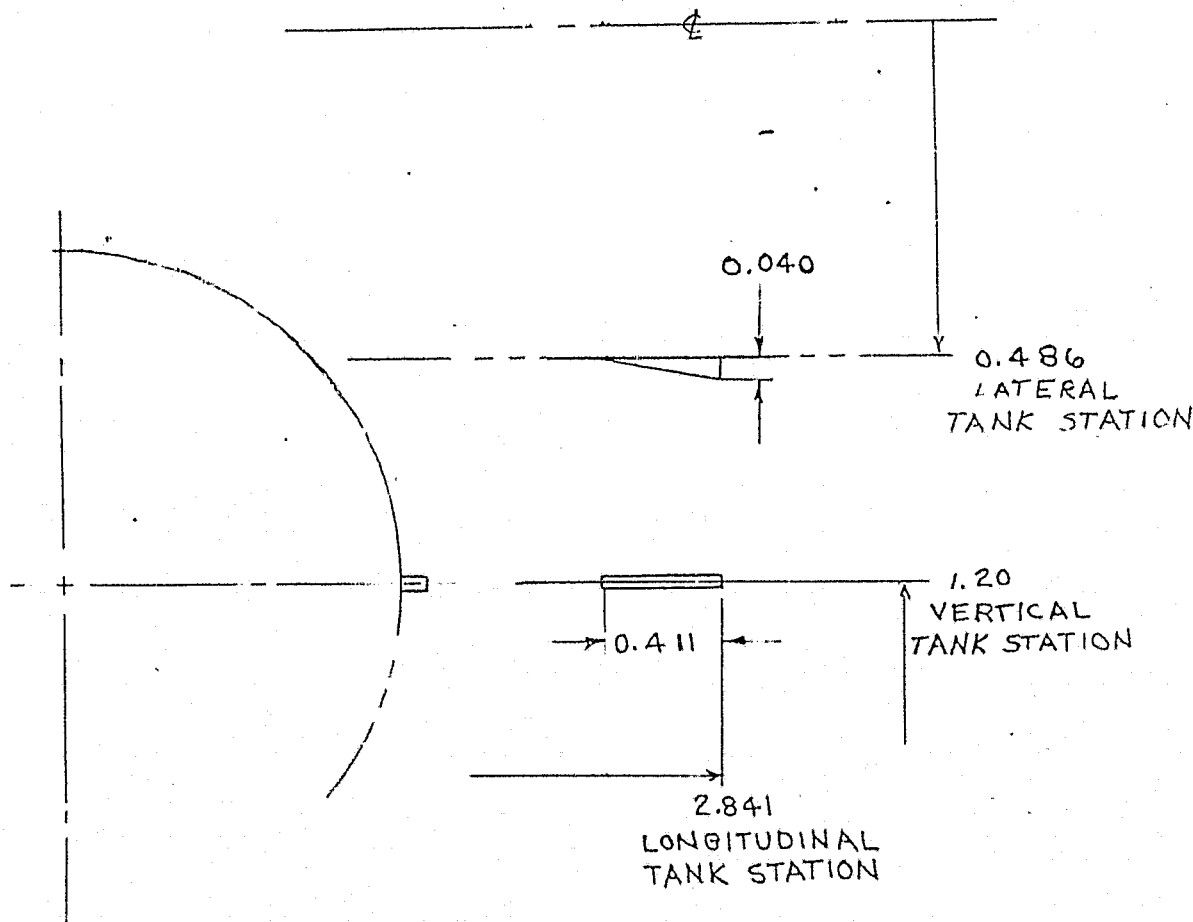




TABLE III. (Continued)

MODEL COMPONENT: ATTACH STRUCTURE - AT<sub>9</sub>

GENERAL DESCRIPTION: AFT SRB/ET ATTACH STRUCTURE (3 MEMBERS) (ET PORTION TESTED ONLY)

MODEL SCALE: 0.003

REFERENCE DRAWING: VL72-000106

ALL DIMENSIONS IN INCHES MODEL SCALE

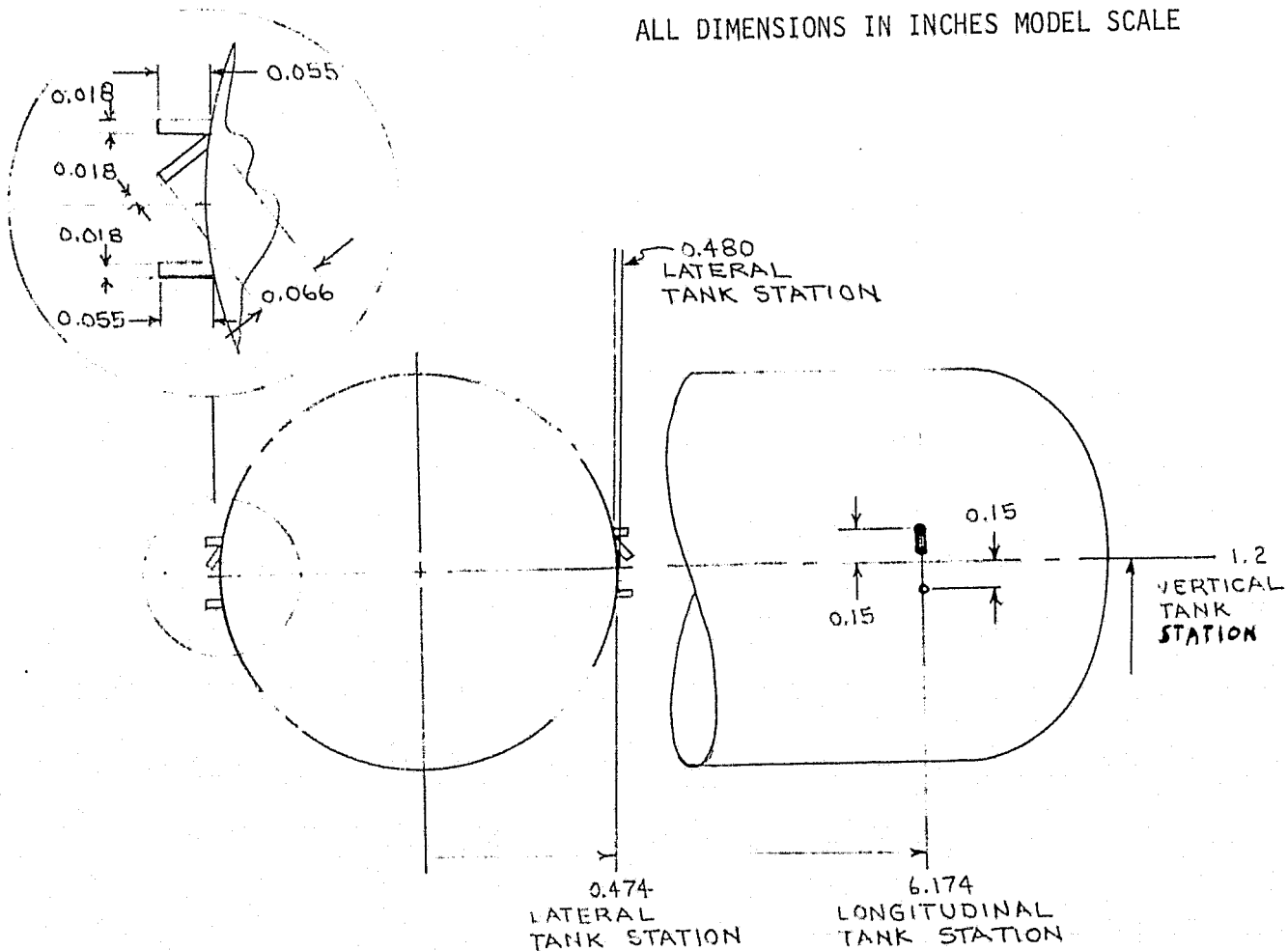


TABLE III. (Continued)

MODEL COMPONENT: LOX VENT LINE FAIRING - PT<sub>T</sub>

GENERAL DESCRIPTION: VENT LINE ALONG UPPER RIGHT SIDE OF ET OGIVE NOSE

BEGINNING AT MODEL STATIONS  $X_T = 0.927$ ,  $Y_T = 0$ , AND  $Z_T = 1.2$ ; TERMINATING AT

$X_T = 2.841$ ,  $Y_T = 0.162$ ,  $Z_T = 1.658$

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000031A

DIMENSIONS:	THEORETICAL	
	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	<u>638 in.</u>	<u>1.914 in.</u>
Max. Width	<u>17.7 in.</u>	<u>0.053 in.</u>
Max. Depth	<u>9.3 in.</u>	<u>0.028 in.</u>
Radial Position	<u>19 1/2°</u>	<u>19 1/2°</u>

TABLE III. (Continued)

MODEL COMPONENT: LOX FEED LINE - PT<sub>2</sub>

GENERAL DESCRIPTION: LONGITUDINAL FUEL LINE ALONG UPPER RIGHT SIDE OF ET

BEGINNING AT MODEL STATIONS  $X_T = 2.841$ ,  $-Y_T = 0.194$ , AND  $Z_T = 1.645$ ; TERMINATING  
AT  $X_T = 6.116$ ,  $-Y_T = 0.194$ , AND  $Z_T = 1.645$

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000031A

<u>DIMENSIONS:</u>	THEORETICAL	
	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	<u>1092 in.</u>	<u>3.275 in.</u>
Max. Width	<u>30.7 in.</u>	<u>0.092 in.</u>
Max. Height	<u>28 in.</u>	<u>0.084 in.</u>
Radial Position	<u>23 1/2°</u>	<u>23 1/2°</u>

TABLE III. (Continued)

MODEL COMPONENT: LH<sub>2</sub> FEED LINE - PT<sub>3</sub>

GENERAL DESCRIPTION: LONGITUDINAL FUEL LINE ALONG UPPER LEFT SIDE OF ET

BEGINNING AT MODEL STATIONS  $X_T = 2.841$ ,  $Y_T = 0.275$ , AND  $Z_T = 1.601$

TERMINATING AT STATIONS  $X_T = 6.116$ ,  $Y_T = 0.275$ , AND  $Z_T = 1.601$

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000031A

<u>DIMENSIONS:</u>	THEORETICAL	
	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length	<u>1092 in.</u>	<u>3.275 in.</u>
Max. Width	<u>25.7 in.</u>	<u>0.077 in.</u>
Max. Depth	<u>14.7 in.</u>	<u>0.044 in.</u>
Radial Position	<u>-33°</u>	<u>-33°</u>

TABLE III. (Continued)

MODEL COMPONENT: LOX FEED LINE - FL<sub>1</sub>

GENERAL DESCRIPTION: 18-INCH DIAMETER VERTICAL FUEL LINE AT AFT END OF ET ON  
RIGHT

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000050

ALL DIMENSIONS IN INCHES MODEL SCALE

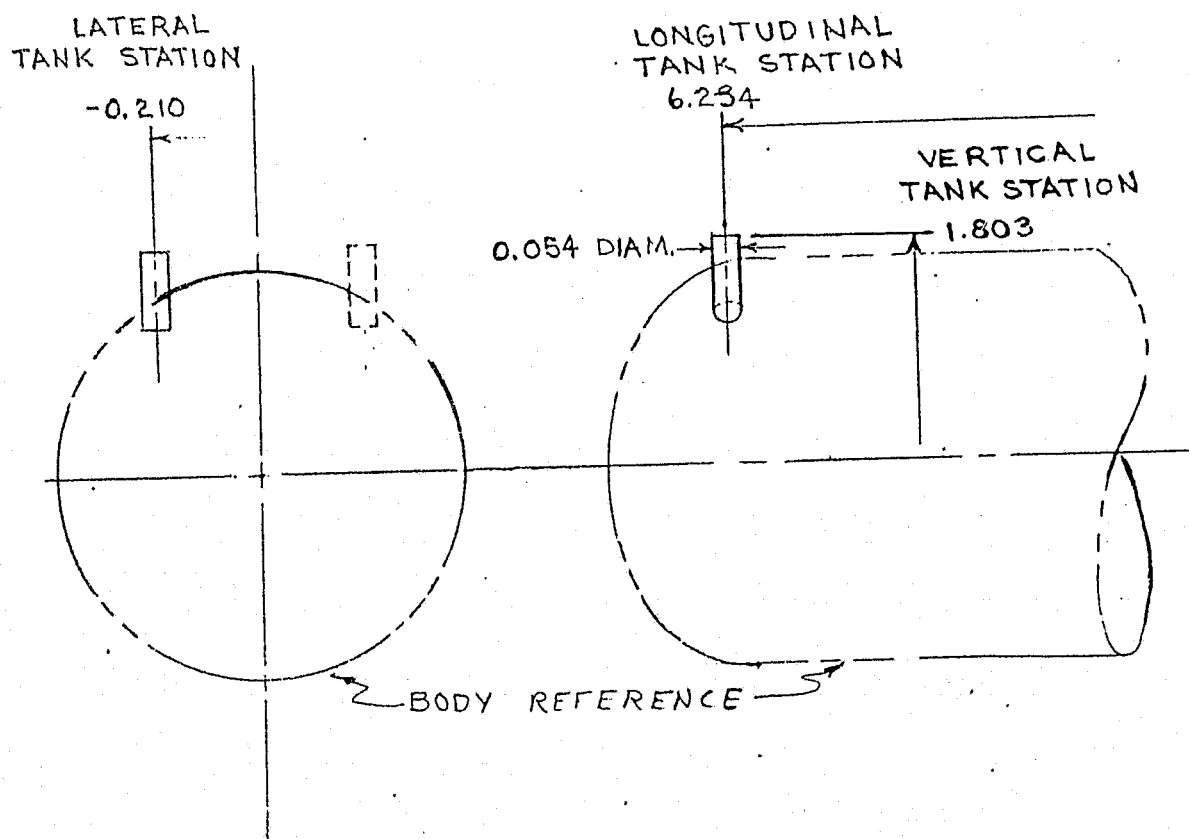


TABLE III. (Continued)

MODEL COMPONENT: LH<sub>2</sub> FEED LINE - FL<sub>2</sub>

GENERAL DESCRIPTION: 18-INCH DIAMETER VERTICAL FUEL LINE AT AFT END OF ET  
ON LEFT

MODEL SCALE: 0.003

REFERENCE DRAWING: VL78-000050

ALL DIMENSIONS IN INCHES MODEL SCALE

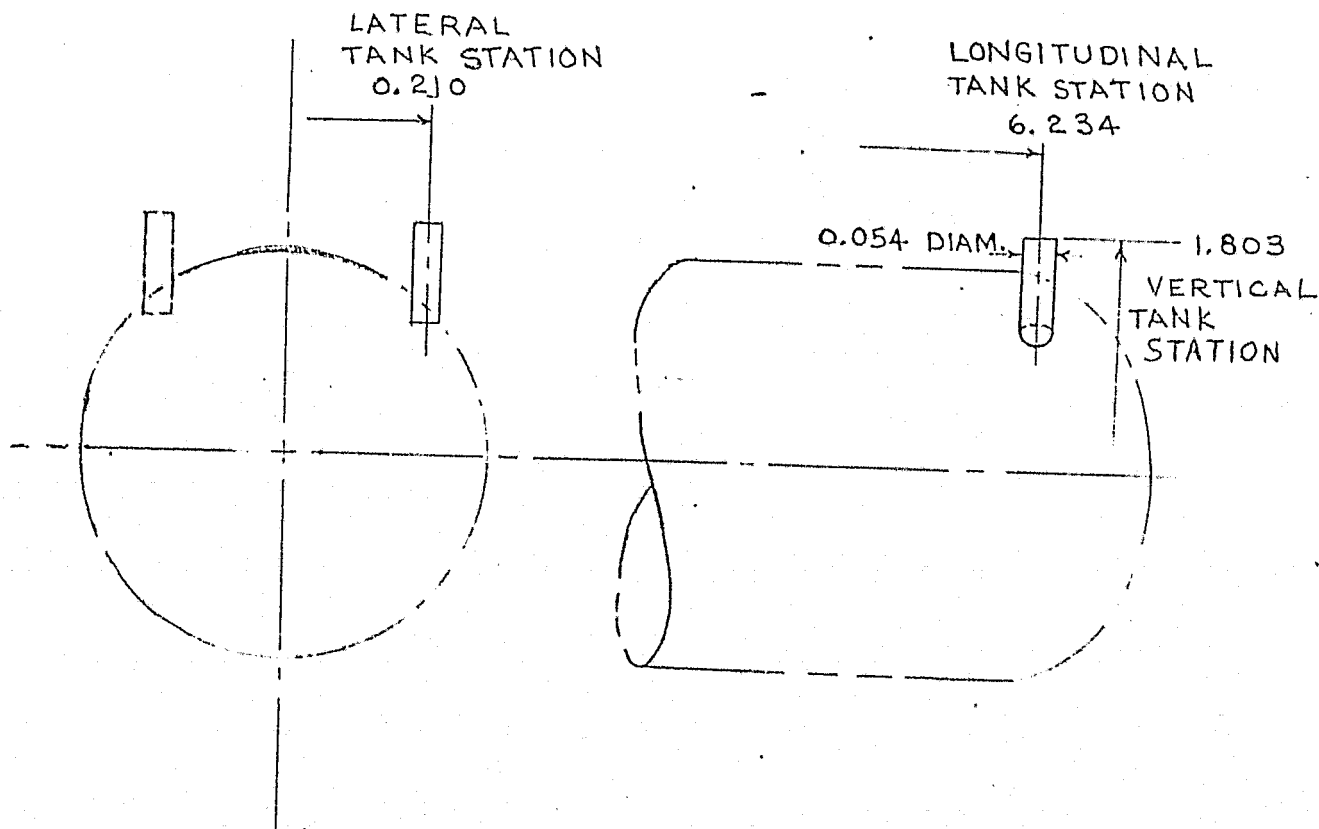


TABLE III. (Concluded)

MODEL COMPONENT: ATTACH STRUCTURE - FR<sub>6</sub>

GENERAL DESCRIPTION: AFT ET/ORBITER CROSS MEMBER (CROSS SECTION 11 IN. x 15 IN.)

LOCATED AT ET-STATION 2050.5

MODEL SCALE: 0.003

REFERENCE DRAWING: FIGURE 3, MARTIN MARIETTA MEMO SA-A-74-9

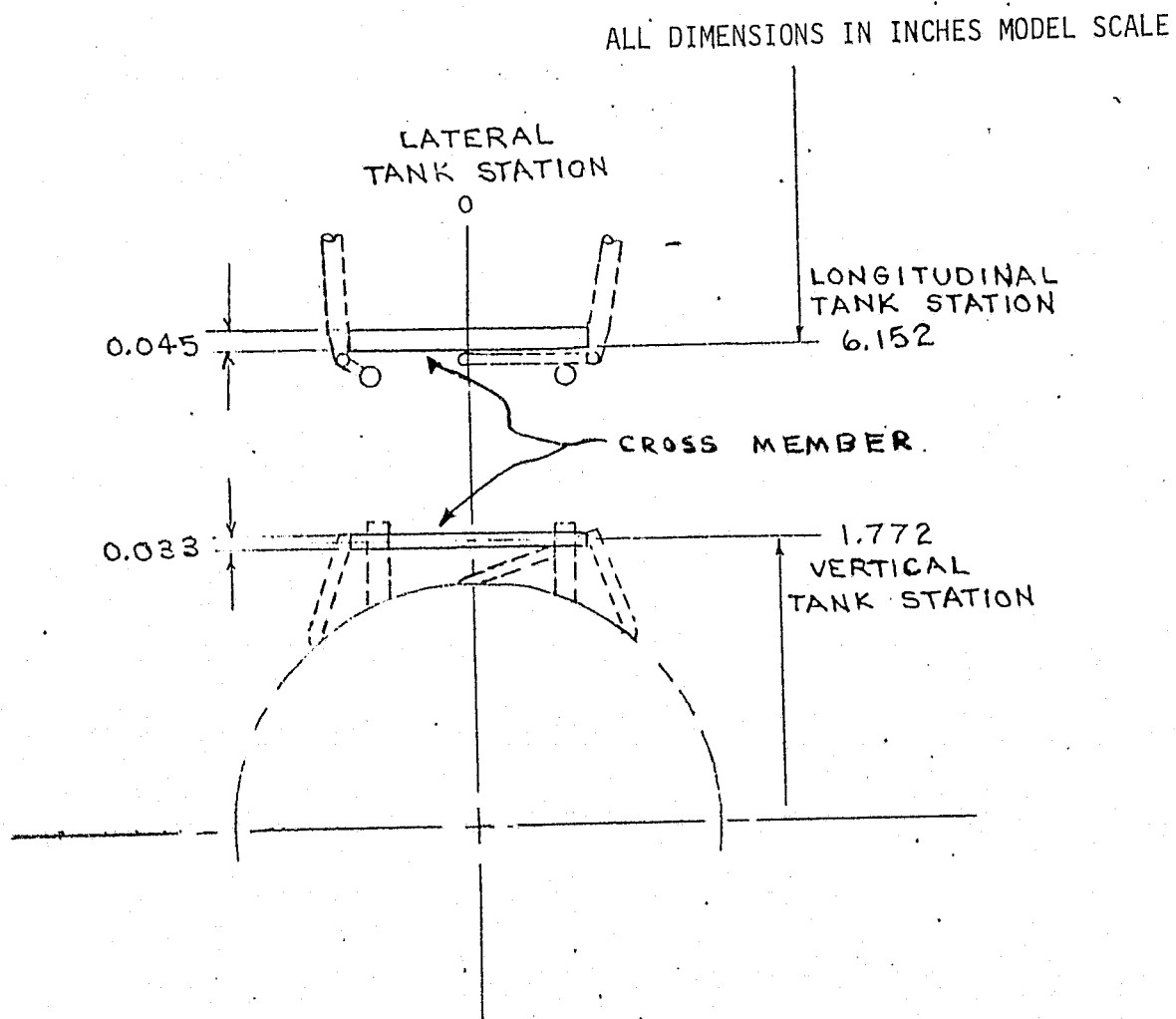


TABLE IV. TABULATED DATA PRINT-OUT FORMAT AND CORRELATION BETWEEN TUBE NUMBER, ORIFICE NUMBER, AND ORIFICE LOCATION ON MODEL

\*inoperable orifice

SIDE-MOUNTED ET (T<sub>2</sub> CONFIGURATION)

	0.055	0.108	0.162	0.216	0.322	0.518	0.610	0.735	0.860	0.872	0.923	0.954
0.305	0.605	0.905	1.205	1.800	2.900	3.410	4.110	4.810	4.985	5.160	5.335	
1	2	3	4	5	6	7	8	9	10	11	12	
O A	1	2	3	4	5	*6	*7	8	9	10	11	12
14 B	12	14	15	16	*17	*18	19	20	21	22	23	
24 C									24	25	26	27
45 D	28	29	30	31	32	33	34	35	36	37	38	39
67½ E	40	41	42	43	44	45	46	47	48	49	50	
90 F	51	52	53	54	55	56	57	58	59	60	61	62
112½ G	63	64	65	66	67	68	69	70	71	72	73	
135 H	74	75	76	77	78	79	80	81	82	83	84	85
157½ I	86	87	88	89	90	91	92	93	94	95	96	
180 J	97	98	99	100	101	102	103	104	105	106	107	108
202½ K	109	110	111	112	113	114	115	116	117	118	119	
225 L	120	121	122	123	124	125	126	127	128	129	130	131
247½ M	132	133	134	135	136	137	138	139	140	141	142	
270 N	143	144	145	146	147	148	149	150	151	152	153	154
292½ O	155	156	157	158	159	160	161	162	163	164	165	
315 P	166	167	168	169	170	171	172	173	174	175	176	177
326 Q									178	179	180	181
346 R	182	183	184	185	*186	*187	188	189	190	191	192	

X/2 B  
LONG. STA. X (In.)  
LONG STA. NO.  
RADIAL ROW NO.  
RADIAL LOCATION θ  
(deg.)



TABLE IV. TABULATED DATA PRINT-OUT FORMAT AND CORRELATION BETWEEN TUBE NUMBER, ORIFICE NUMBER, AND ORIFICE LOCATION ON MODEL (CONCLUDED)

SIDE-MOUNTED ET (T<sub>2</sub> CONFIGURATION) \* inoperable orifice

	0.055	0.108	0.162	0.216	0.322	0.518	0.610	0.735	0.860	0.892	0.923	0.954
O	1	2	3	4	5	* 6	* 7	8	9	10	11	12
14	X	13	14	15	16	* 17	* 18	19	20	21	22	23
24	X	X	X	X	X	X	X	X	24	25	26	27
45	28	29	30	31	32	33	34	35	36	37	38	39
67½	X	40	41	42	43	44	45	46	47	48	49	50
90	51	52	53	54	55	56	57	58	59	60	61	62
112½	X	63	64	65	66	67	68	69	70	71	72	73
135	74	75	76	77	78	79	80	81	82	83	84	85
157½	X	86	87	88	89	90	91	92	93	94	95	96
180	97	98	99	100	101	102	103	104	105	106	107	108
202½	X	109	110	111	112	113	114	115	116	117	118	119
225	120	121	122	123	124	125	126	127	128	129	130	131
247½	X	132	133	134	135	136	137	138	139	140	141	142
270	143	144	145	146	147	148	149	150	151	152	153	154
292½	X	155	156	157	158	159	160	161	162	163	164	165
315	166	167	168	169	170	171	172	173	174	175	176	177
326	X	X	X	X	X	X	X	X	178	179	180	181
346	X	182	183	184	185	* 186	* 187	188	189	190	191	192

X/L  
LONG. STA. X (In.)  
LONG. STA. No.  
CIRCUM. ROW  
CIRCUM. STA  
θ(deg.)

TABLE V. TABULATED DATA PRINT-OUT FORMAT AND CORRELATION BETWEEN TUBE NUMBER, ORIFICE NUMBER, AND ORIFICE LOCATION ON MODEL

\* inoperable orifice

TAIL-MOUNTED ET (T<sub>1</sub> CONFIGURATION)

X/φ B  
LONG. STA. X (in.)  
LONG. STA. NO.  
RADIAL ROW NO.  
RADIAL LOCATION θ  
(deg.)

	0.055	0.108	0.162	0.216	0.322	0.518	0.610	0.735	0.860	0.892	0.923	0.954
0.305	0.605	0.905	1.205	1.800	2.900	3.410	4.110	4.810	4.985	5.160	5.335	
1	2	3	4	5	6	7	8	9	10	11	12	
0 A	1	2	3	4	5	6	7	8	9	10	11	12
14 B	13	14	15	16	17	18	19	20	21	22	23	24
24 C												
45 D	28	29	30	31	32	33	34	35	36	37	38	39
67½ E		40	41	42	43	44	45	46	47	48	49	50
90 F	51	52	53	54	*55	56	57	58	59	60	61	62
112½ G		63	64	65	66	67	68	69	70	71	72	73
135 H	74	75	76	77	78	79	80	81	*82	83	84	85
157½ I		86	87	88	89	90	91	92	93	94	95	96
180 J	77	98	99	100	101	102	103	104	105	106	107	108
202½ K		109	110	111	112	113	114	115	116	117	118	119
225 L	120	121	122	123	124	125	126	127	128	129	130	131
247½ M		132	133	134	135	136	137	138	139	140	141	142
270 N	143	144	145	146	*147	148	149	150	151	152	153	154
292½ O		155	156	157	158	159	160	161	162	163	164	165
315 P	166	167	168	169	170	171	172	173	174	175	176	177
326 Q									178	179	180	181
346 R		182	183	184	185	186	187	188	189	190	191	192

TABLE V. TABULATED DATA PRINT-OUT FORMAT AND CORRELATION BETWEEN TUBE NUMBER, ORIFICE NUMBER, AND ORIFICE LOCATION ON MODEL (CONCLUDED)

TAIL-MOUNTED ET (T<sub>1</sub> CONFIGURATION) \* inoperable orifice

	0.055	0.108	0.162	0.216	0.322	0.518	0.610	0.735	0.860	0.892	0.923	0.954
0.305	0.605	0.905	1.205	1.505	1.800	2.900	3.410	4.110	4.810	4.985	5.160	5.335
1	2	3	4	5	6	7	8	9	10	11	12	
A	1	2	3	4	5	6	7	8	9	10	11	12
B	13	14	15	16	17	18	19	20	21	22	23	
C									24	25	26	27
D	28	29	30	31	32	33	34	35	36	37	38	39
E		40	41	42	43	44	45	46	47	48	49	50
F	51	52	53	54	55	56	57	58	59	60	61	62
G		63	64	65	66	67	68	69	70	71	72	73
H	74	75	76	77	78	79	80	81	82	83	84	85
I		86	87	88	89	90	91	92	93	94	95	96
J	97	98	99	100	101	102	103	104	105	106	107	108
K		109	110	111	112	113	114	115	116	117	118	119
L	120	121	122	123	124	125	126	127	128	129	130	131
M		132	133	134	135	136	137	138	139	140	141	142
N	143	144	145	146	147	148	149	150	151	152	153	154
O		155	156	157	158	159	160	161	162	163	164	165
P	166	167	168	169	170	171	172	173	174	175	176	177
Q									178	179	180	181
R		182	183	184	185	186	187	188	189	190	191	192

X/L  
LONG. STA. X (In.)  
LONG. STA. No.  
CIRCUM. ROW  
CIRCUM. STA  
θ(deg.)

Table VI.

0.003-SCALE 324-INCH ET REFERENCE DIMENSIONS

DIMENSION	FULL SCALE	MODEL SCALE
Reference Area, $S_{ref}$ (cross-sectional area of ET)	572.555 FT <sup>2</sup>	0.742 IN. <sup>2</sup>
Reference Length, $l_{ref}$ (ET diameter)	324 IN.	0.972 IN.
Reference Span, $b_{ref}$ (ET diameter)	324 IN.	0.972 IN.
Moment Reference Point, MRP (dry weight c.g.)		
XMRP (from nose)	1086.4 IN.	3.259 IN.
YMRP	0	0
ZMRP (model centerline)	400 IN.	1.2 IN.
Base Area, $A_b$ (cross-sectional area of ET)	572.555 FT <sup>2</sup>	0.742 IN. <sup>2</sup>

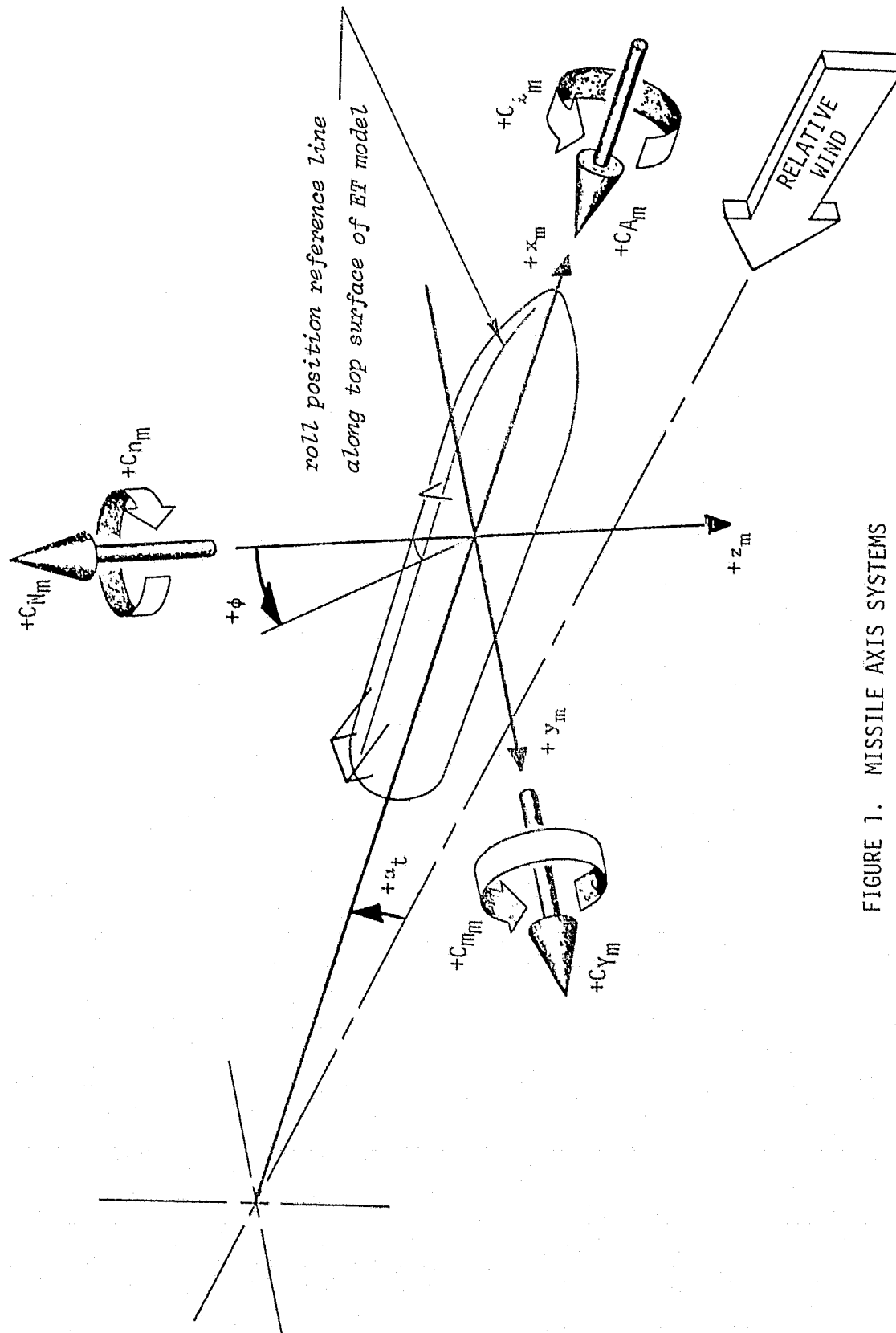
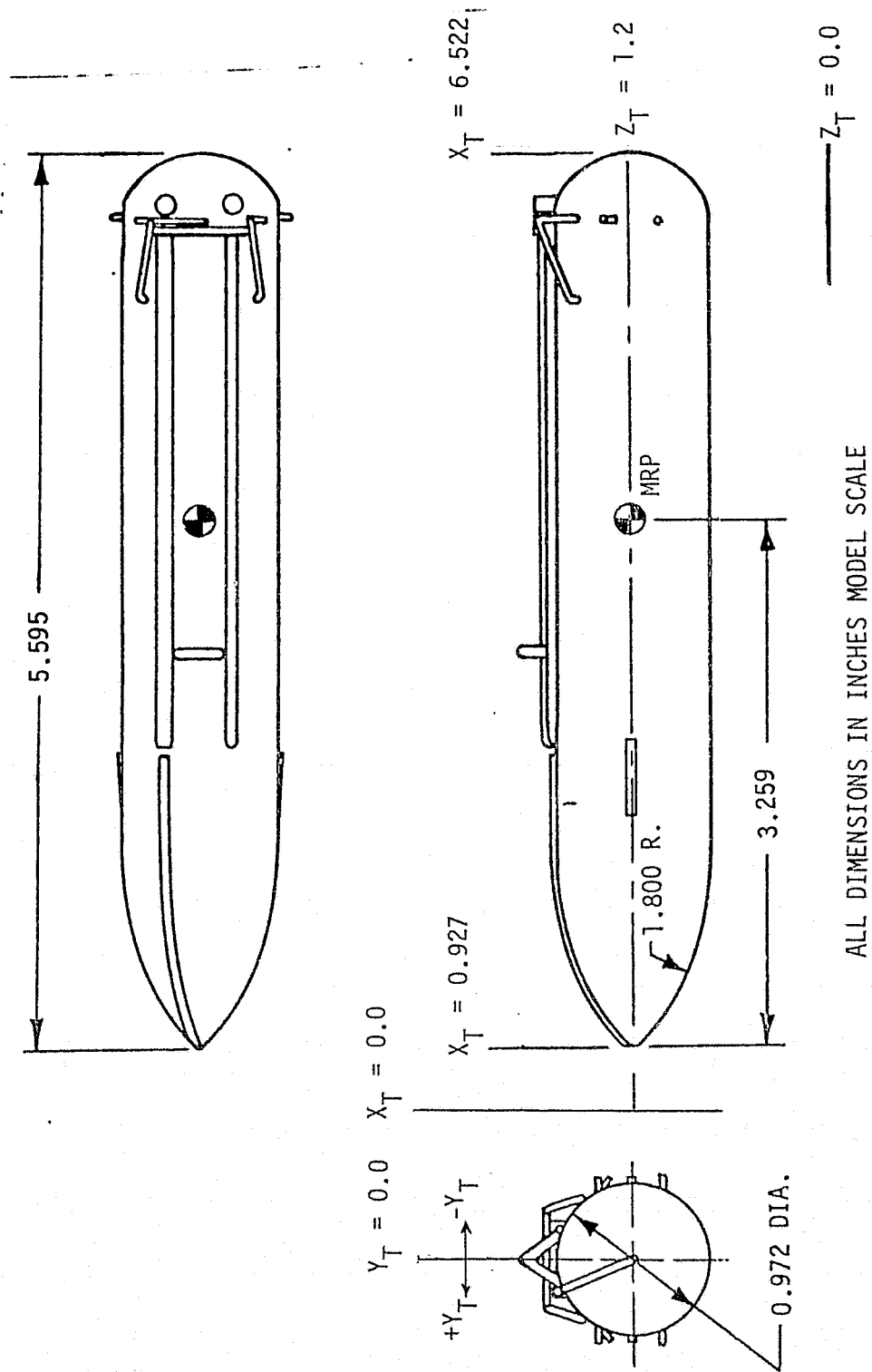
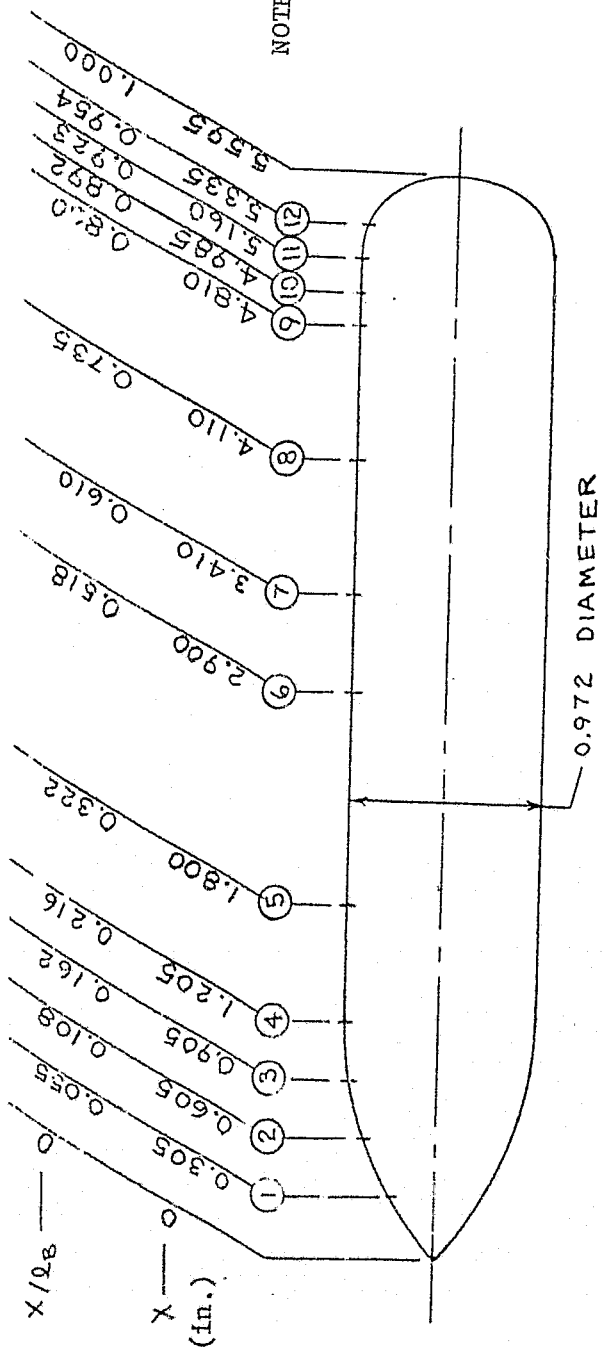


FIGURE 1. MISSILE AXIS SYSTEMS

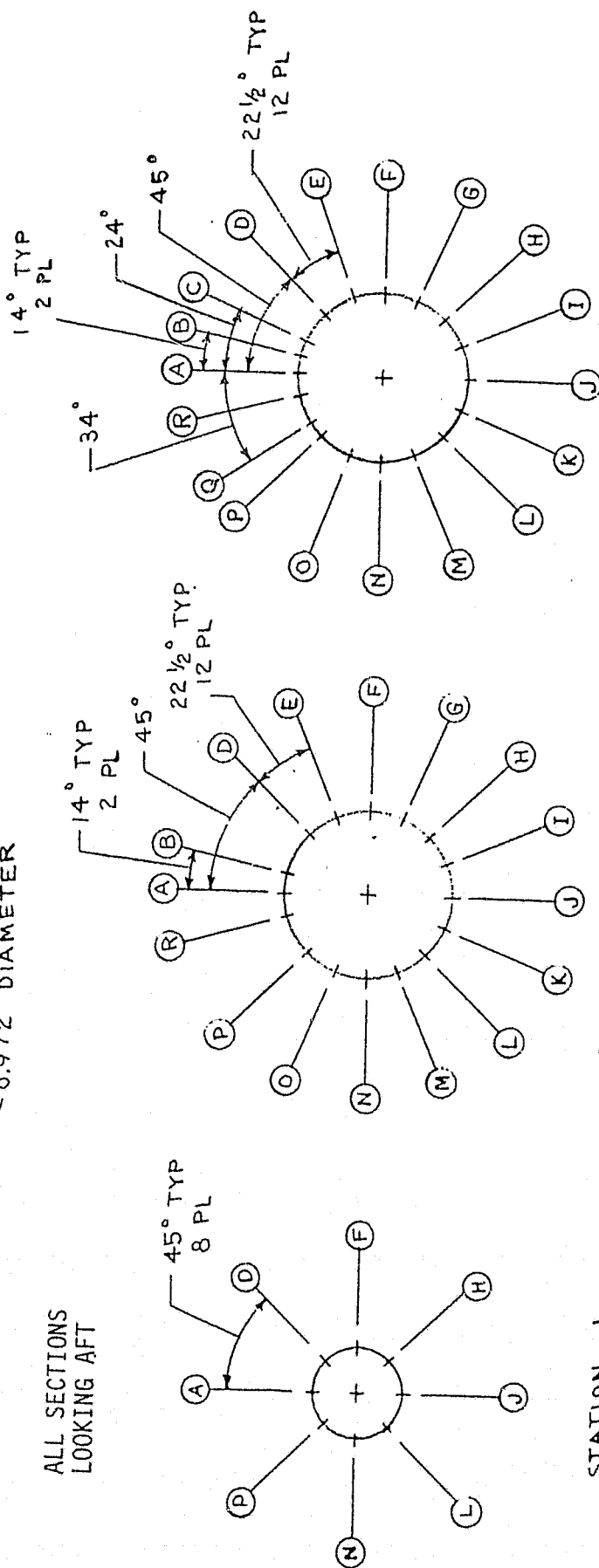


a. GENERAL ARRANGEMENT OF MSFC MODEL NO. 460, CONFIGURATION T<sub>1</sub> EXTERNAL TANK WITH PROTUBERANCES  
Figure 2. MODEL SKETCHES

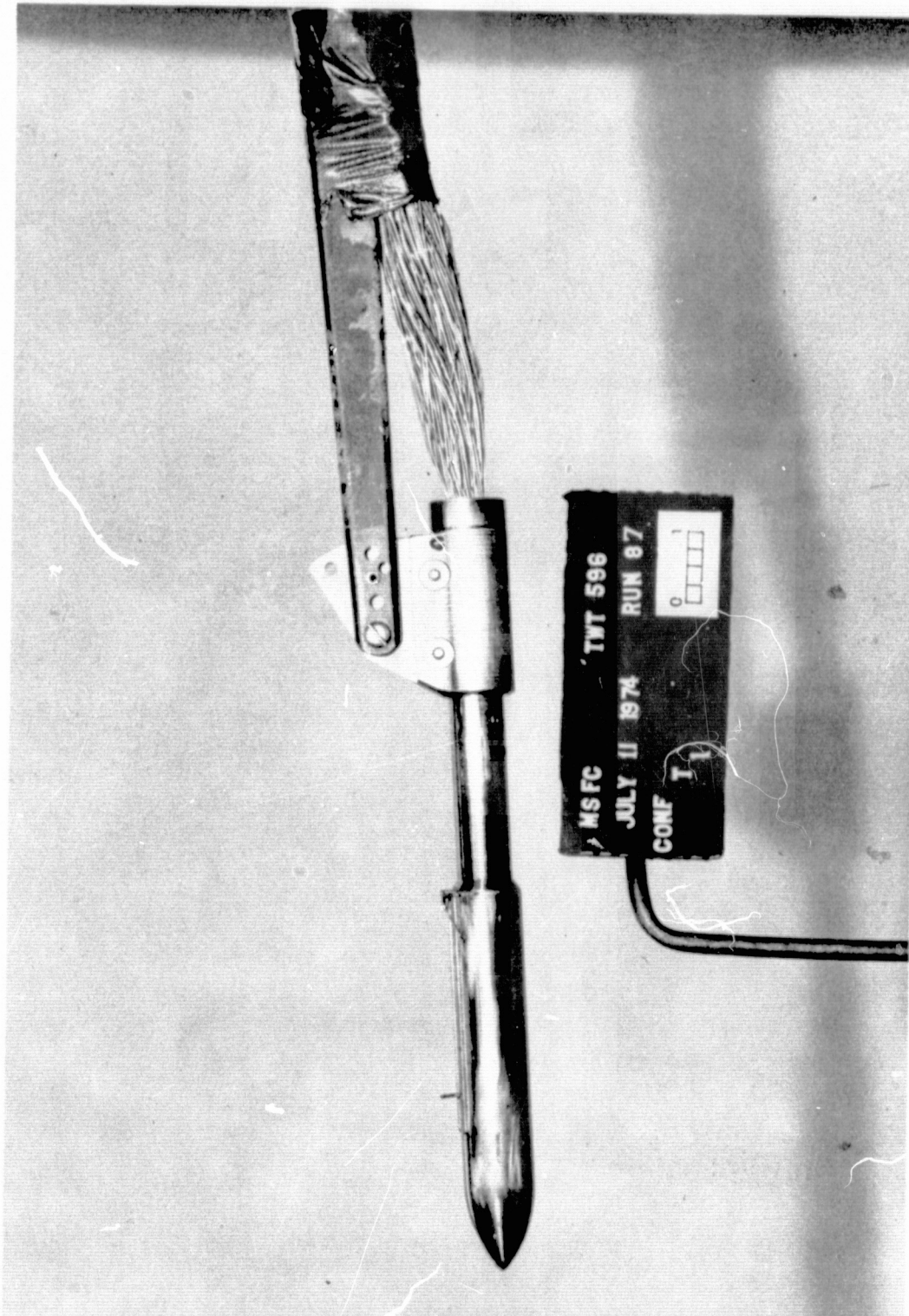


NOTE: ○ Denotes longitudinal and radial location of orifices. (192 total, though some may be missing due to sting cavities or protuberances.)

ALL SECTIONS  
LOOKING AFT



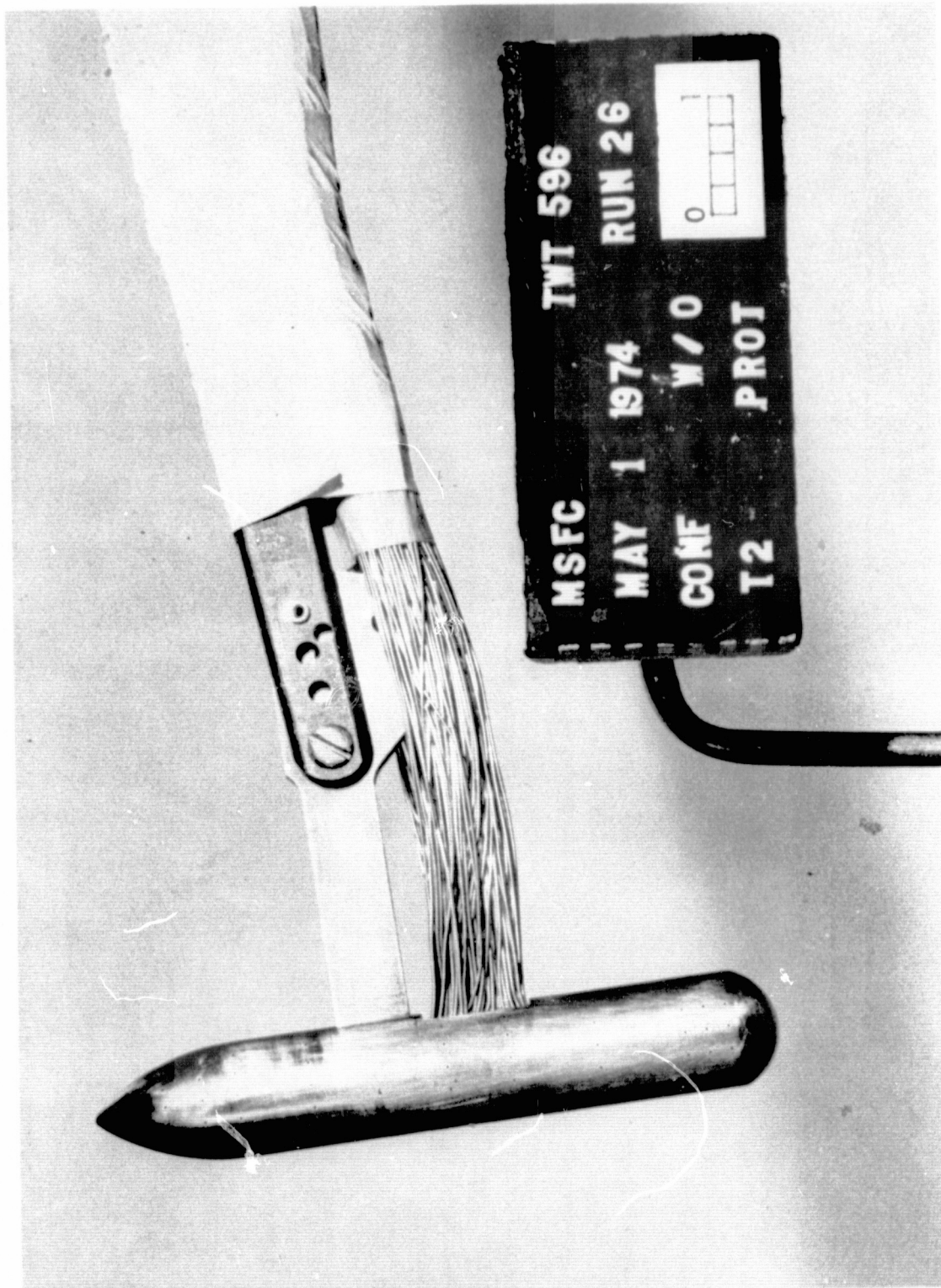
b. EXTERNAL TANK MODEL PRESSURE ORIFICE LOCATIONS  
Figure 2. CONCLUDED



EXTERNAL TANK MODEL NO. 460, CONFIGURATION T<sub>1</sub> TAIL-MOUNTED WITH PROTUBERANCES  
Figure 3. MODEL PHOTOGRAPHS

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR





b. EXTERNAL TANK MODEL NO. 460, CONFIGURATION T<sub>2</sub> SIDE-MOUNTED WITHOUT PROTUBERANCES  
Figure 2. CONCLUDED

DATA FIGURES

VOLUME 1--Pages 1-720  
VOLUME 2--Pages 721-1200  
VOLUME 3--Pages 1201-2000  
VOLUME 4--Pages 2001-2740

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (A1AX01)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.380	0.000	OFFSET	SREF 572.5550 SQ. FT
□	-4.330	1.000	PHI	LREF 324.0000 INCHES
◇	-2.280	0.000		BREF 324.0000 INCHES
△	3.790	0.000		XMRP 1086.4000 IN. XT
	7.860	0.000		YMRP 400.0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0030

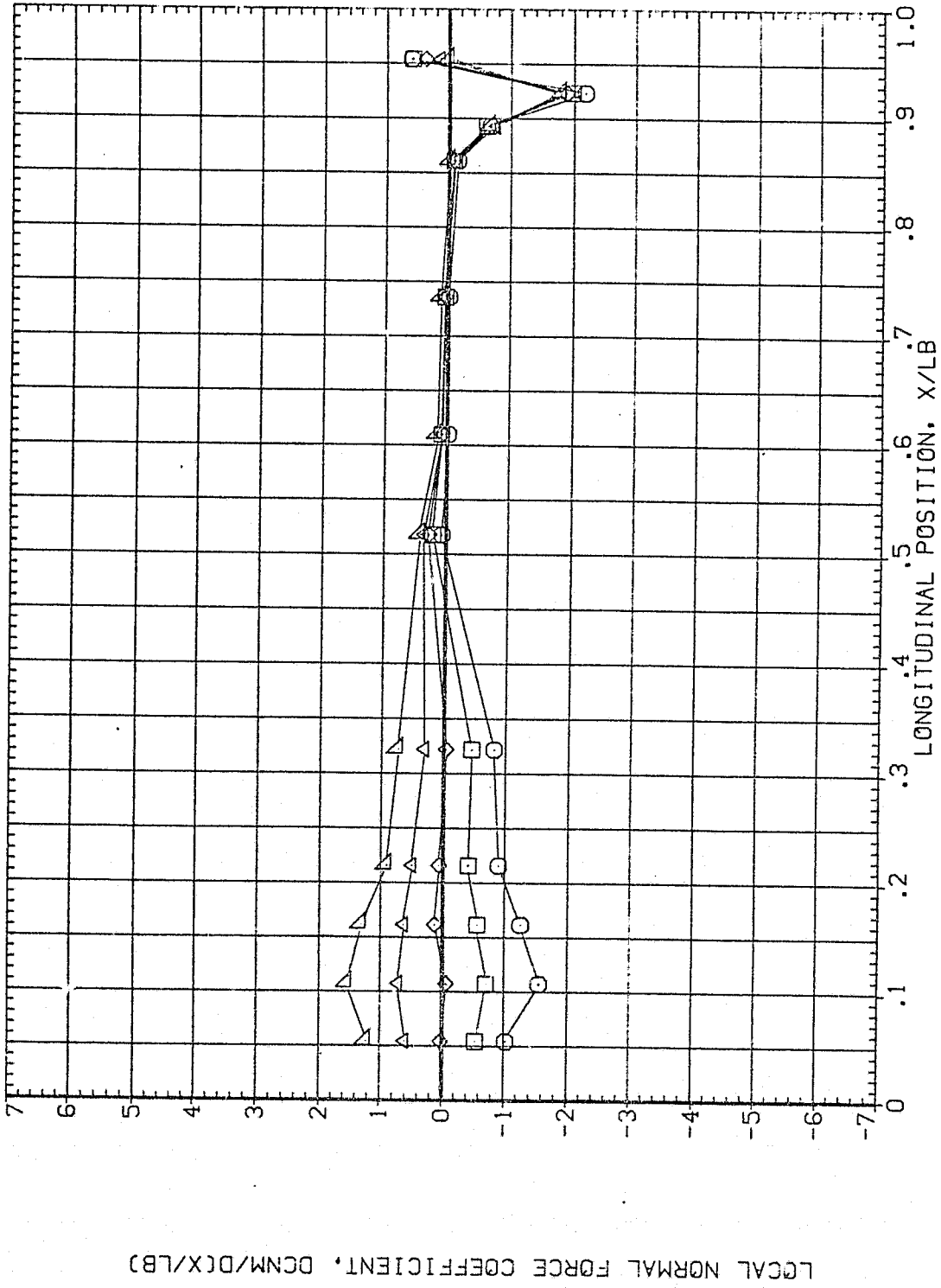


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 1.96

SYMBOL  
 ○  
 □  
 ◇  
 △

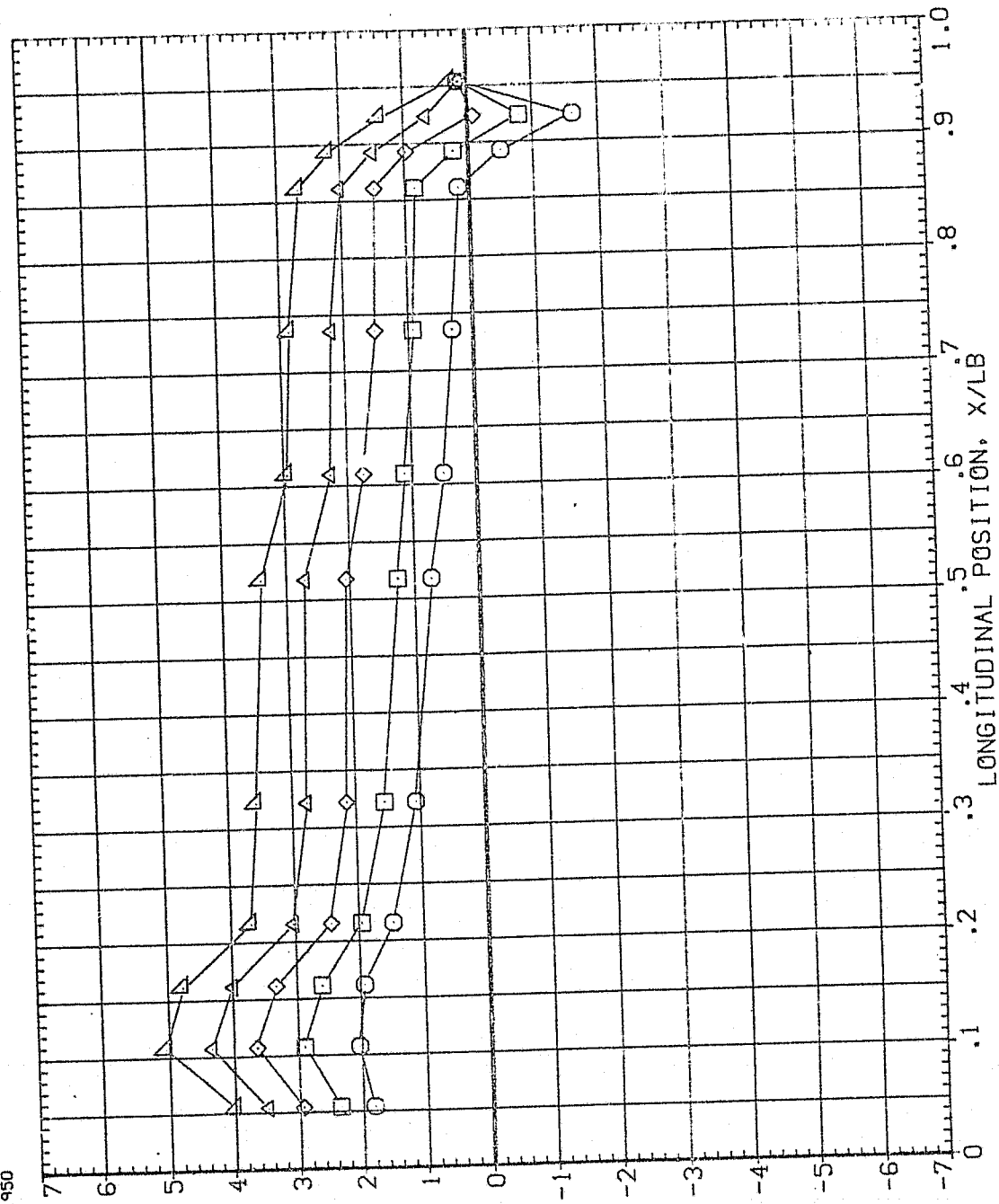
ALPHA  
 12.570  
 16.660  
 20.740  
 24.850  
 28.950

BETA  
 .000  
 1.000  
 .000  
 .000  
 .000

PARAMETRIC VALUES  
 OFFSET  
 PHI

SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP .0000  
 ZMRP 400.0000  
 SCALE .0030

REFERENCE INFORMATION  
 SQ. FT  
 INCHES  
 IN. XT  
 IN. YT  
 IN. ZT



LOCAL NORMAL FORCE COEFFICIENT, DCNM/DC(X/LB)

FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 1.97

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (A1AX11)

SYMBOL  
 ○ □ ◇ △ ▽

ALPHA  
 -8.380  
 -4.330  
 -.280  
 3.790  
 7.940

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 1.000  
 OFFSET PHI 90.000

REFERENCE INFORMATION  
 SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP .0000  
 ZMRP 400.0000  
 SCALE .0030

LOCAL NORMAL FORCE COEFFICIENT,  $DCNM/DCX/LB$

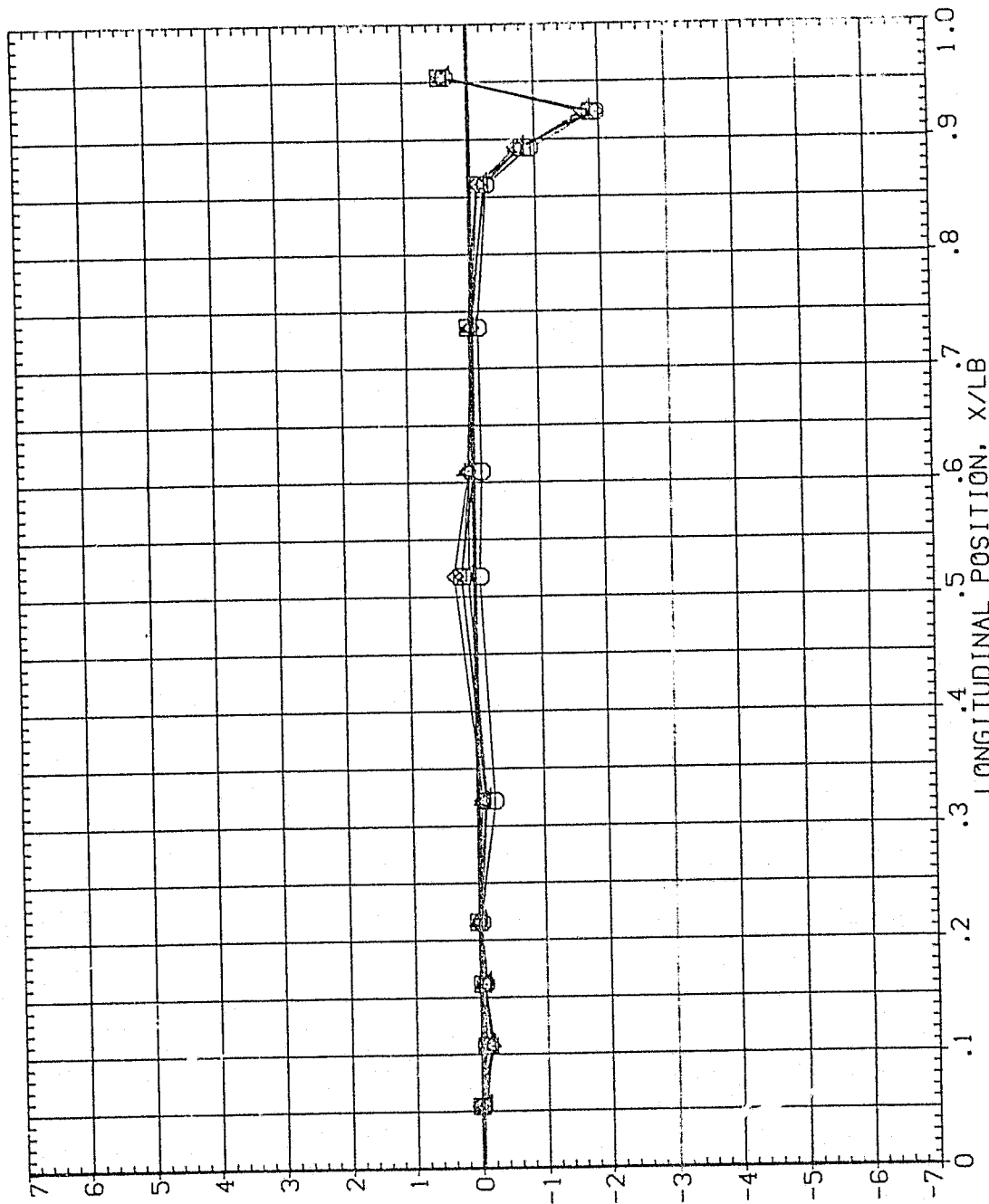


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 1.96

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

SYMBOL  
 ○  
 □  
 ◇  
 △  
 ▽

ALPHA  
 12.550  
 16.660  
 20.740  
 24.850  
 28.930

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 1.000  
 OFFSET 20.000  
 PHI 90.000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT.  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XHRP 1086.4000 IN. XI  
 YHRP .0000 IN. YI  
 ZHRP 400.0000 IN. ZI  
 SCALE .0030

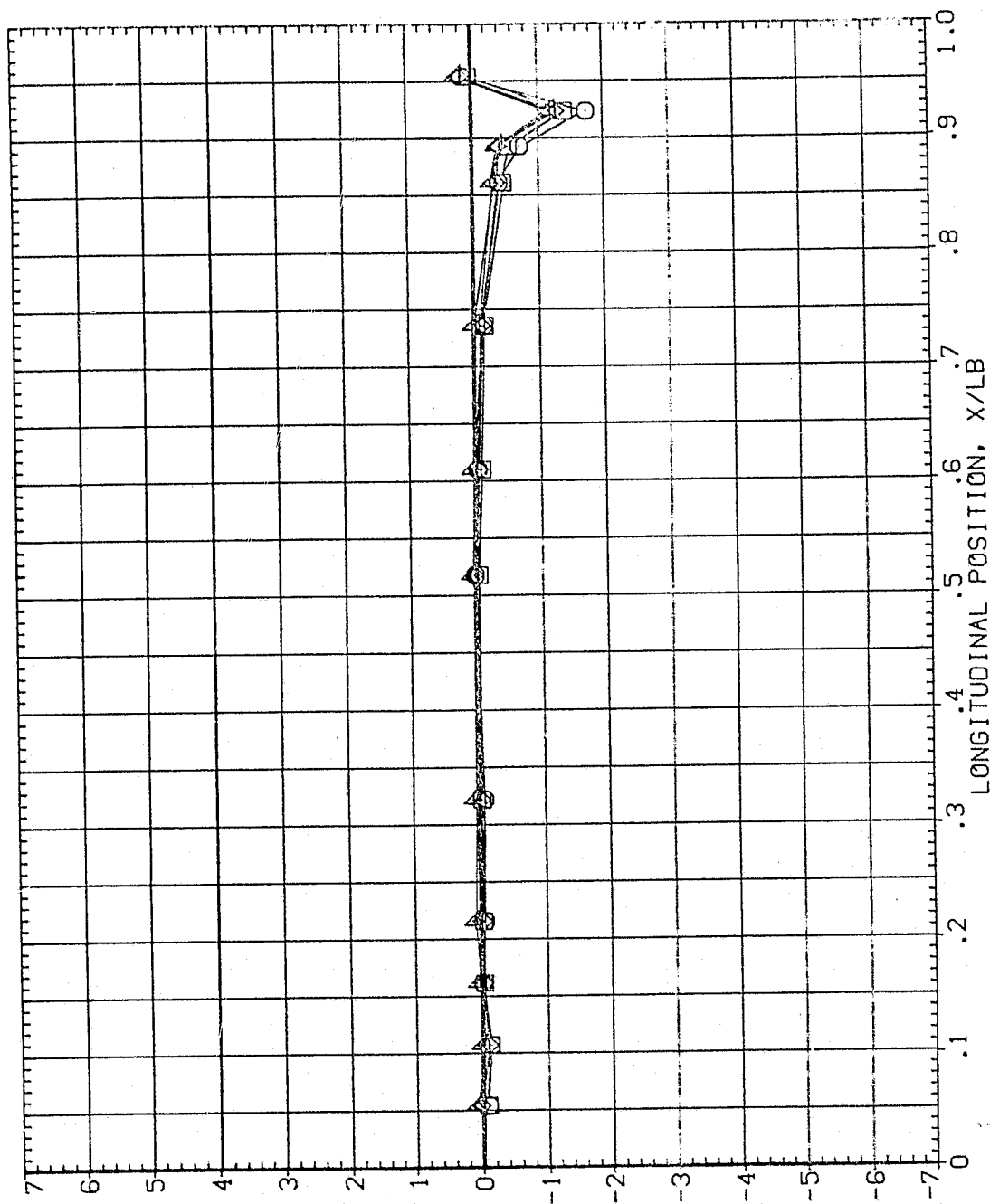


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 1.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (A1AX31)

SYMBOL		PARAMETRIC VALUES		REFERENCE INFORMATION	
○	ALPHA	BETA	OFFSET	SREF	SC, FT
□	-8.380	MOUNT	.000	LREF	INCHES
◇	-4.330		1.000	BREF	INCHES
△	-1.200		PHI	XMRP	IN, YI
	3.770			YMRP	IN, ZI
	7.420			ZMRP	
				SCALE	.0032

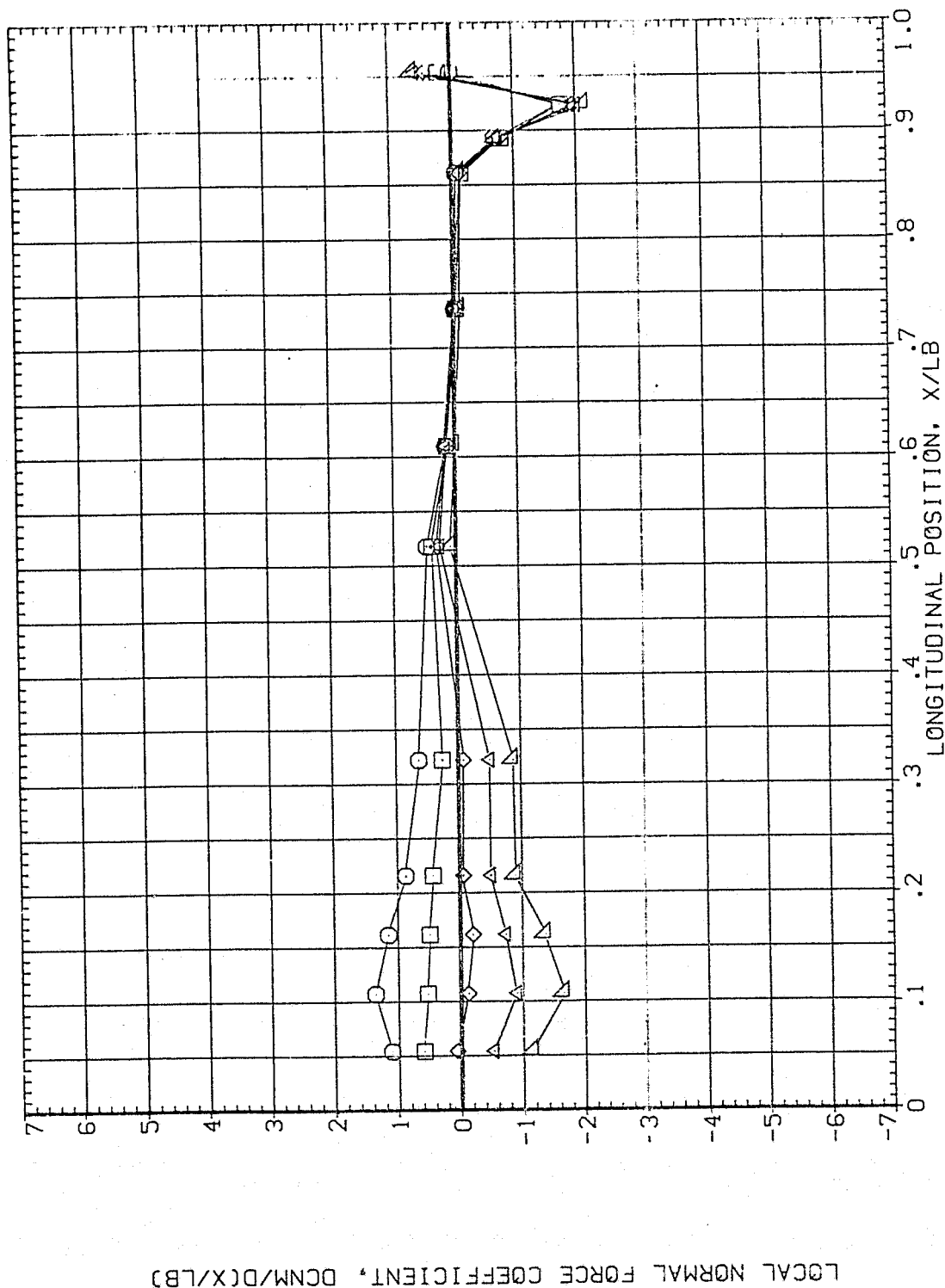


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 1.96

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	ALPHA	BETA	OFFSET	SREF	572.5550	SO. FT
○	12.570	16.660	.000	LREF	324.0000	INCHES
□	20.740	20.740	1.000	BREF	1086.4000	IN. XT
◇	24.870	24.870		XMRP	400.0000	IN. YT
△	28.930	28.930		ZMRP	400.0000	IN. ZT
				SCALE	.0030	

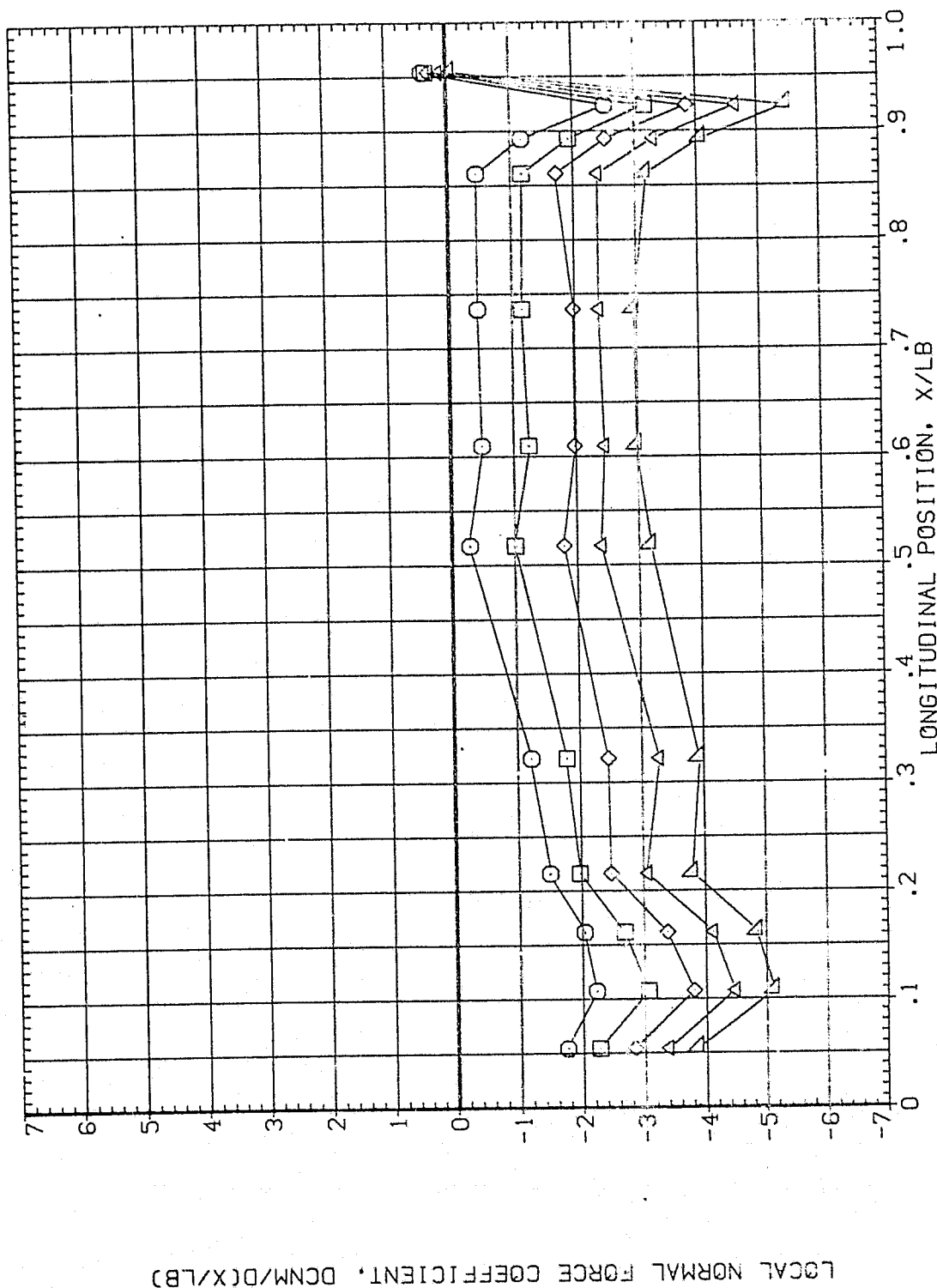


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 1.97

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (A1AX51)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
□	-8.380	HOUNT	.000	SREF 572.5550
◇	-4.350	PHI	270.000	LREF 324.0000
△	-280			BREF 324.0000
▽	3.770			XMRP 1086.4000
	7.860			YMRP .0000
				ZMRP 400.0000
				SCALE .0030
				SO. FT
				INCHES
				IN. XI
				IN. YT
				IN. ZT

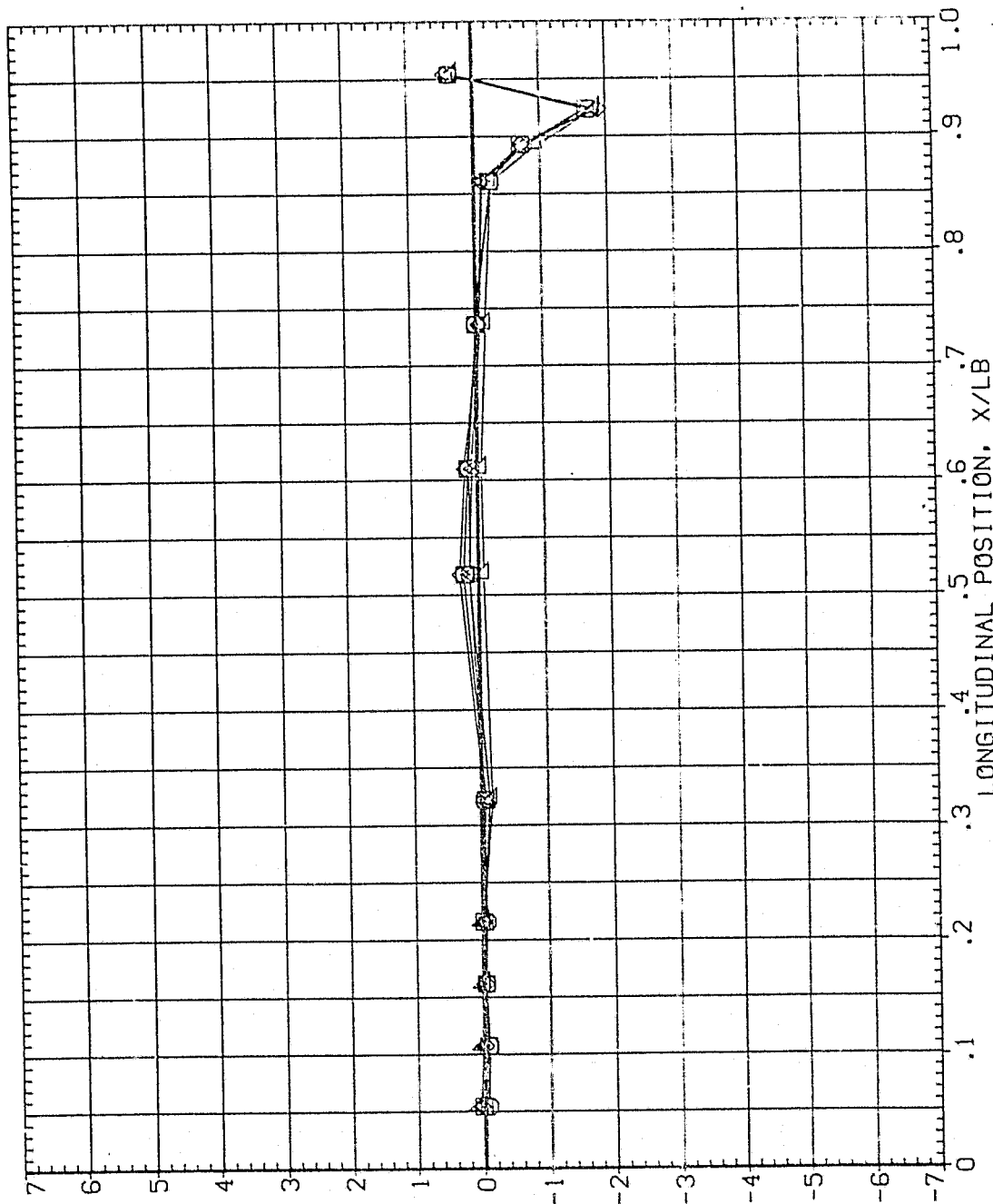


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 1.95

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES
○	12.570	0.000	OFFSET 20.000
□	16.640	1.000	PHI 270.000
◇	20.740		
△	24.850		
▽	28.930		

REFERENCE INFORMATION	
SREF	572.5350
LREF	324.0000
BREF	324.0000
XHRP	1086.4000
YHRP	.0000
ZHRP	400.0000
SCALE	.0030

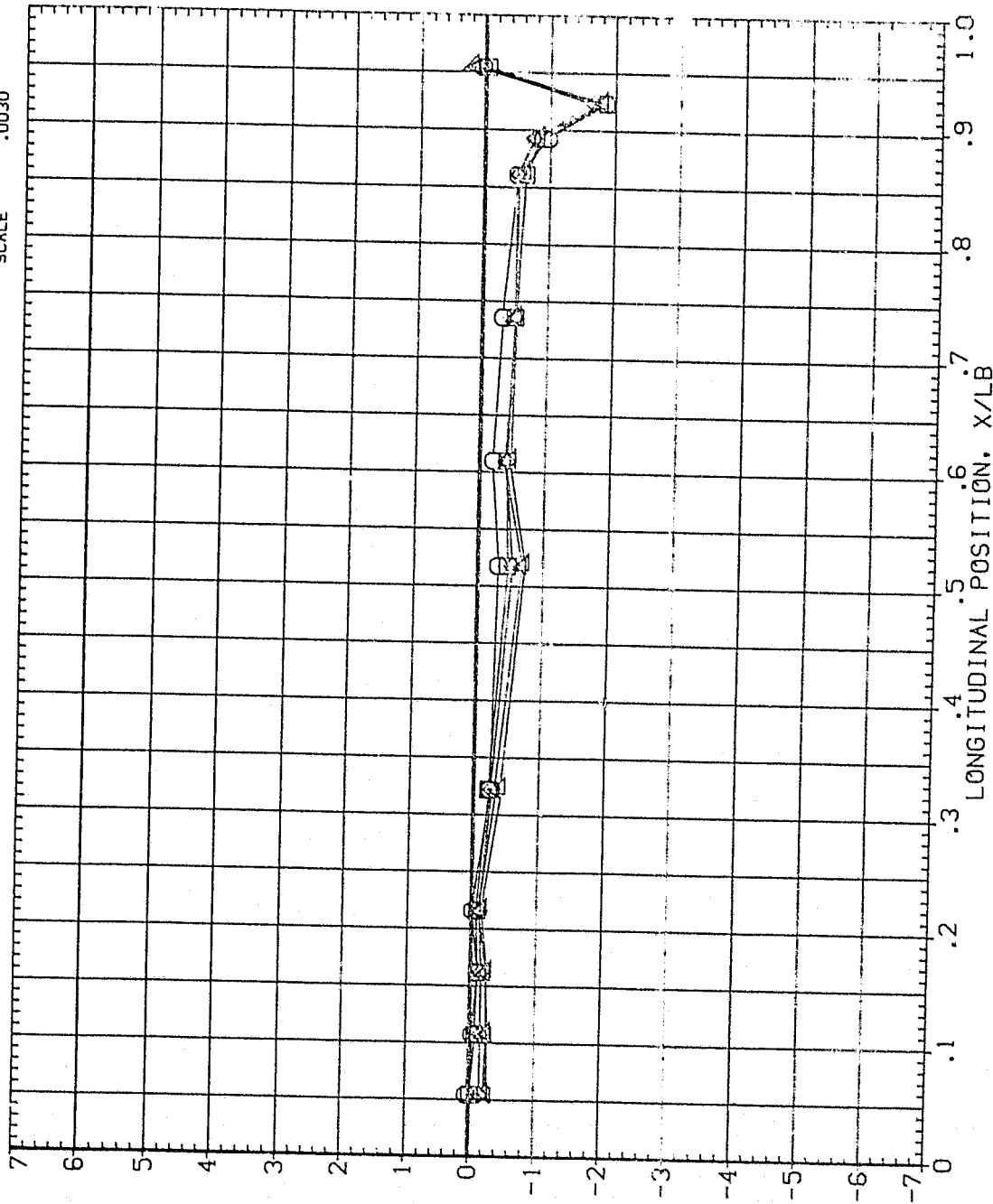


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES  
(MACH = 1.97)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION			
	ALPHA	BETA	PHI	SREF	SO. FT	INCHES	IN. XT
○	-8.360	.000	.000	LREF	572.5550	324.0000	IN. XT
□	-4.330	1.000	.000	BREF	324.0000	1086.4000	IN. XT
◇	-.280			XHRP	.0000	400.0000	IN. ZT
△	3.770			ZHRP	.0030		
▽	7.800			SCALE			

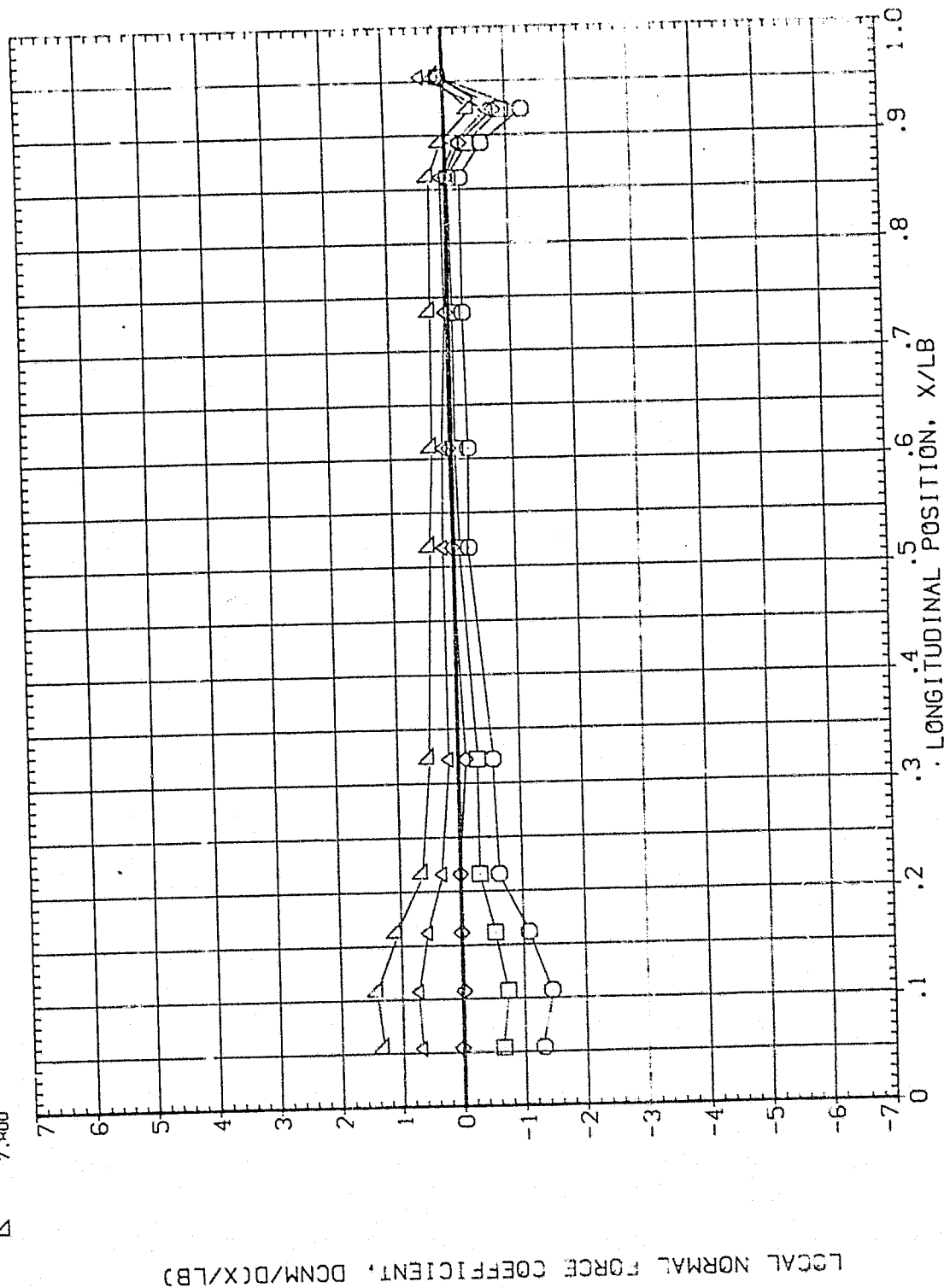


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	ALPHA	BETA	OFFSET	SREF	SO. FT	INCHES
○	12.520	MOUNT	.000	LREF	324.0000	IN. XT
□	16.560		1.000	BREF	324.0000	IN. Y1
◇	20.610			XMRP	1086.4000	IN. Z1
△	24.660			ZMRP	400.0000	IN. Z1
▽	28.700			SCALE	.0030	

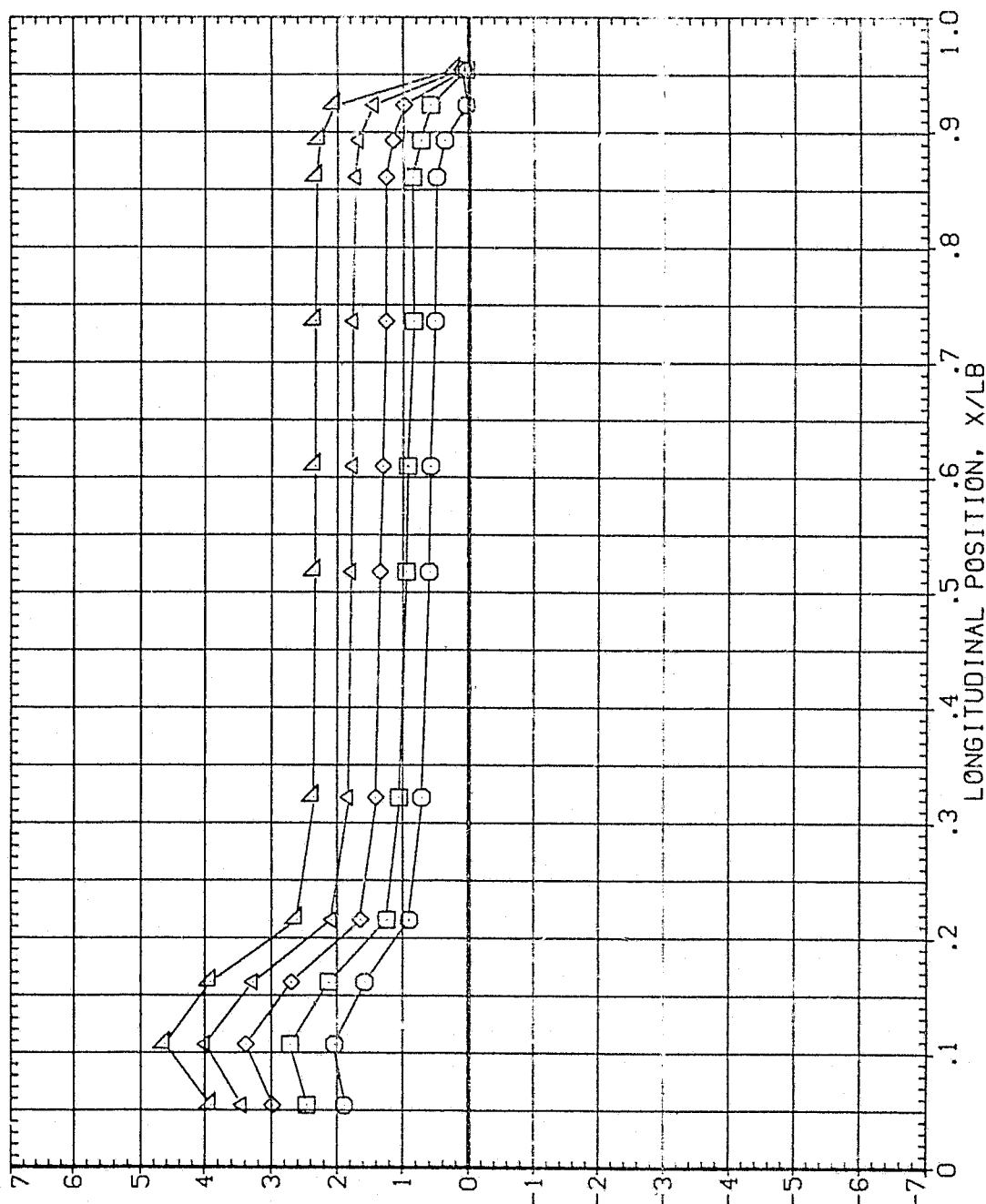


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (N1A081)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.380	0.000	OFFSET	SREF 572.5550
◇	-4.330	1.000	PHI	LREF 324.0000
△	-2.280	45.000		BREF 324.0000
▽	3.770			XMRP 1086.4000
	7.000			YMRP 400.0000
				ZMRP 400.0000
				SCALE .0030

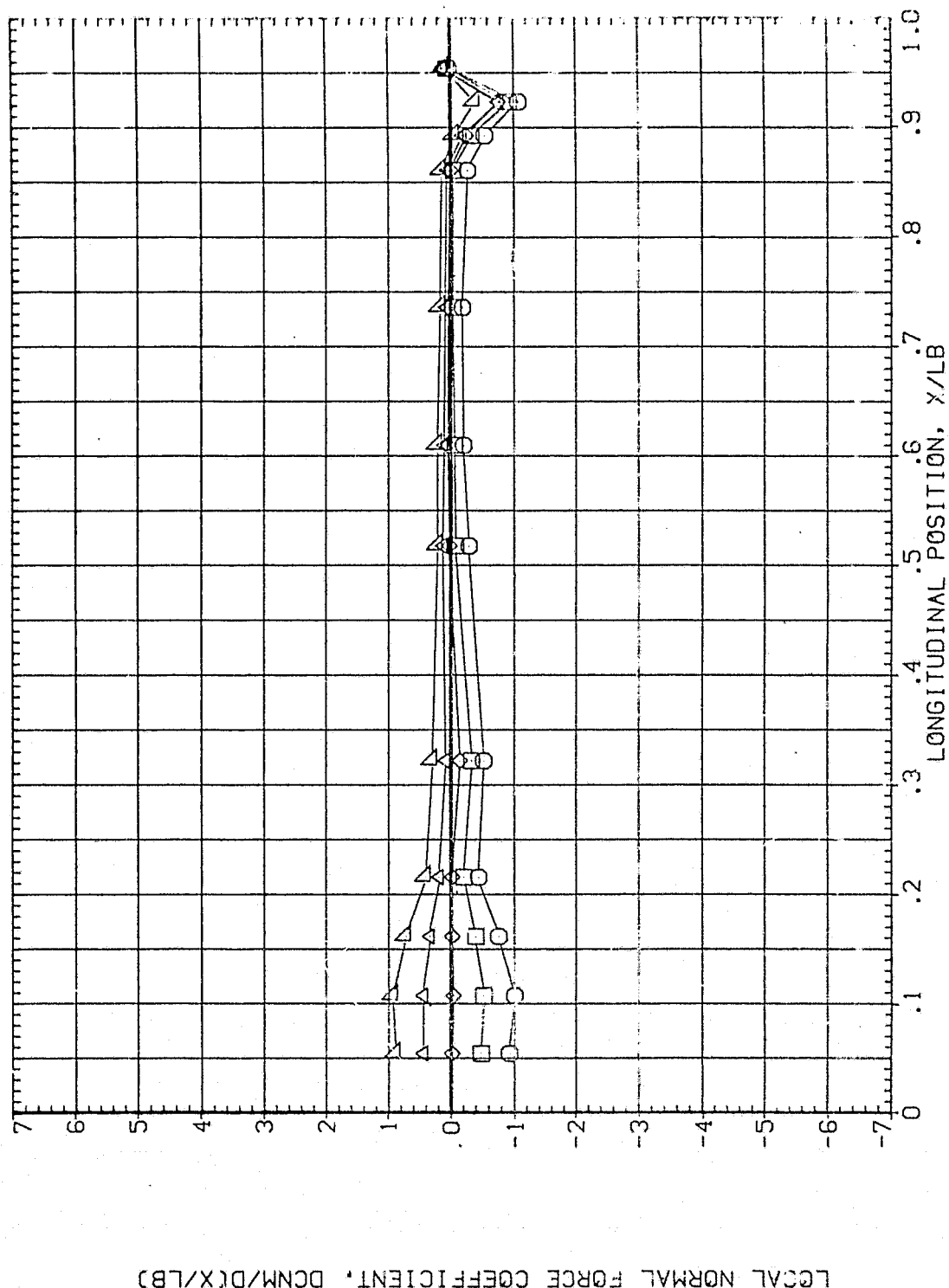


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

SYMBOL  
 ○ □ ◇ △

ALPHA  
 12.520  
 16.560  
 20.610  
 24.660  
 28.700

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 .000 20.000 45.000  
 PHI

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

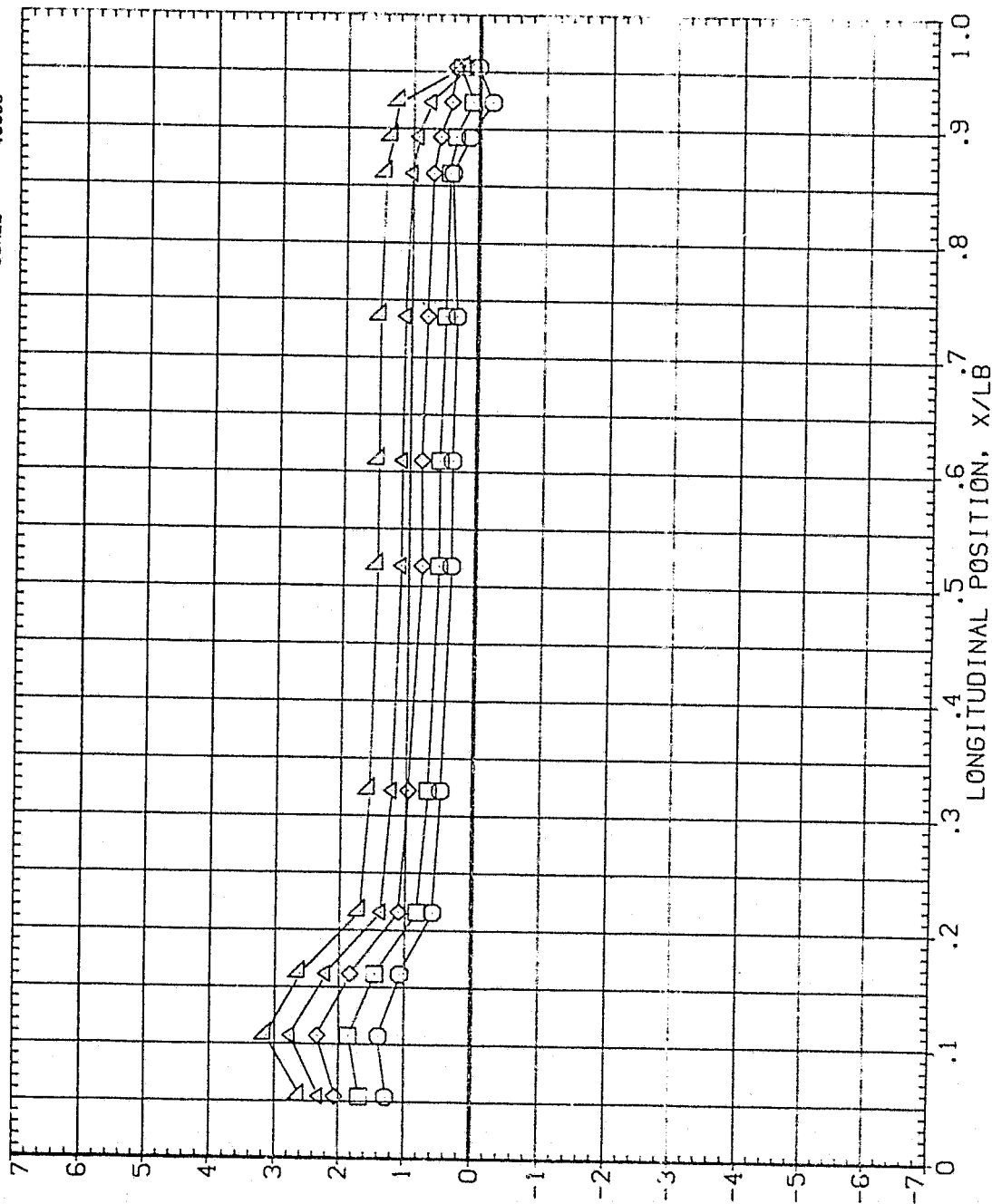







FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CA/MACH = 3.48

(N1A011)

SYMBOL	DESCRIPTION
	Circle
	Square
	Diamond
	Triangle
	Inverted Triangle

ALPHA  
-8.360  
-4.330  
-.280  
3.770  
7.800

PARAMETRIC VALUES
.000      OFFSET
1.000      PHI

000.06  
000.

REFERENCE INFORMATION	
SREF	572.5550
LREF	324.0000
BREF	324.0000
XMRP	1086.4000
YMRP	.0000
ZMRP	400.0000
SCALE	.0030
	50. FT
	INCHES
	IN. XI
	IN. YT
	IN. ZT

LOCAL NORMAL FORCE COEFFICIENT,  $DC_{NM}/D(X/LB)$

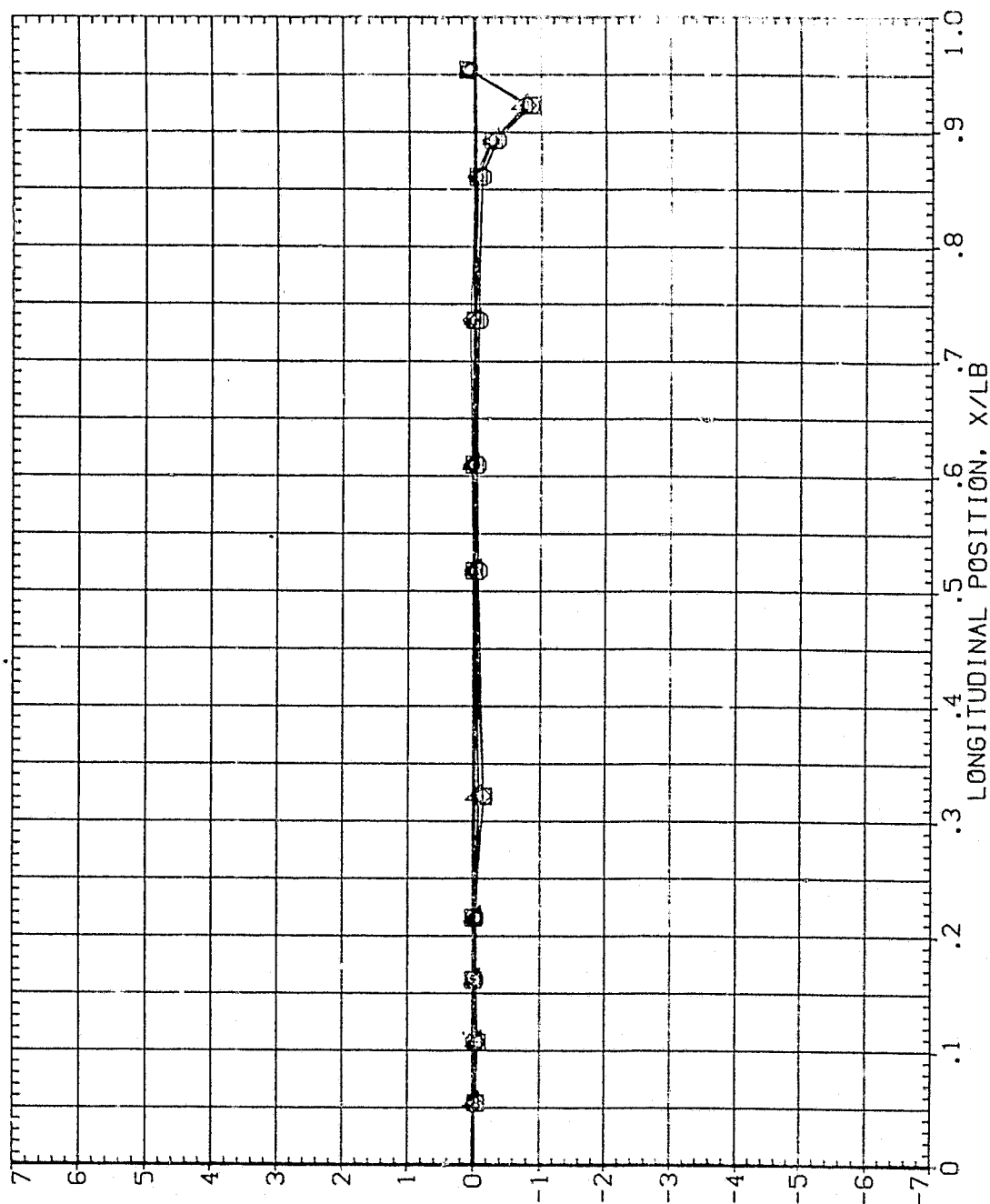


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

$$[A]_{MACH} = 3.48$$

SYMBOL      ALPHA      BETA      MOUNT      .000      OFFSET      20.000      90.000  
 ○      12.520      16.560      20.610      24.660      28.700  
 □      12.520      16.560      20.610      24.660      28.700  
 ◇      12.520      16.560      20.610      24.660      28.700  
 △      12.520      16.560      20.610      24.660      28.700  
 ▽      12.520      16.560      20.610      24.660      28.700

PARAMETRIC VALUES

REFERENCE INFORMATION

SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP 400.0000  
 ZMRP 400.0000  
 SCALE .0030

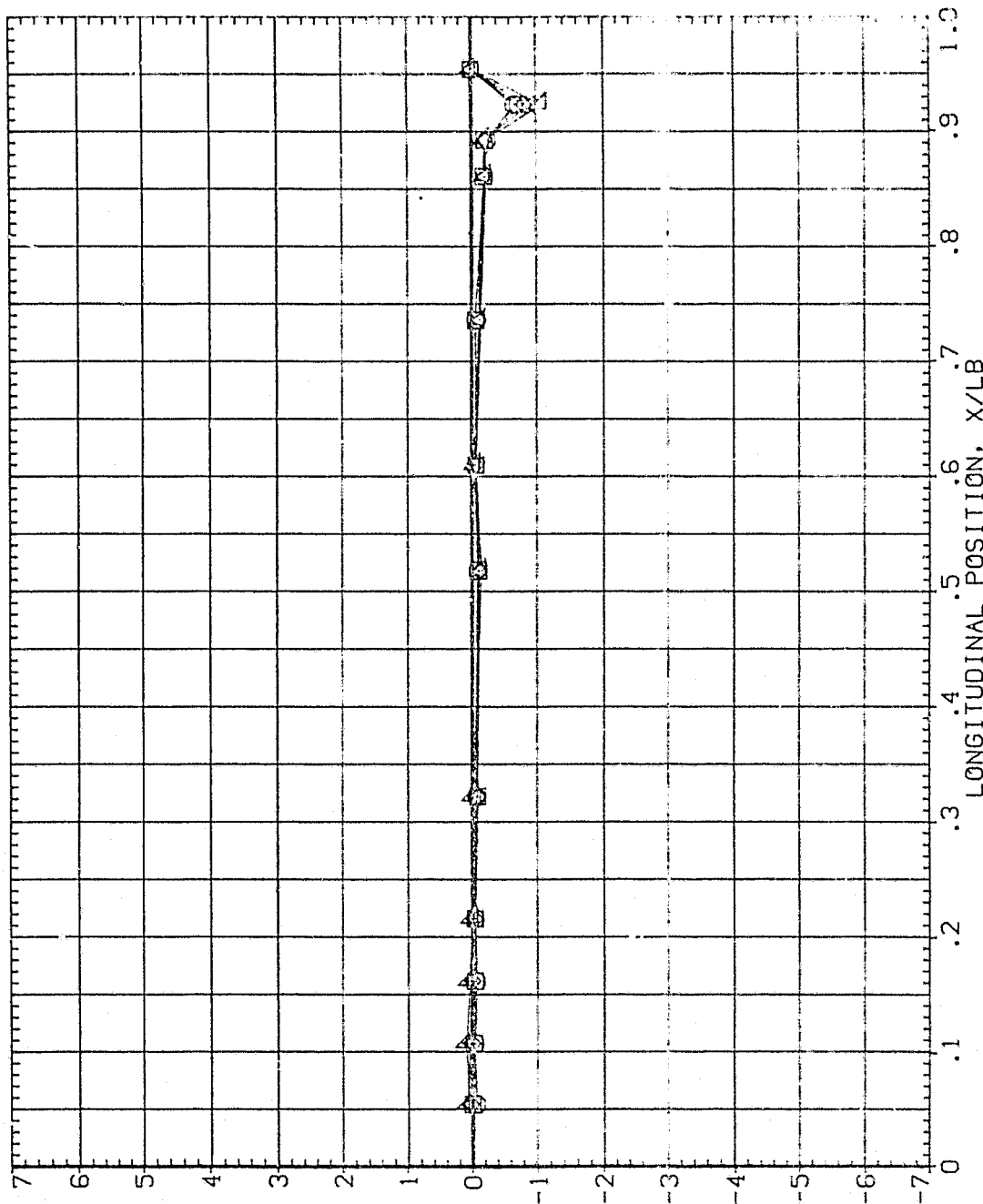


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (N1A021)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.36C	0.000	OFFSET	SREF 572.5550 SO. FT
□	-4.330	1.000	PHI	LREF 324.0000 INCHES
◇	-2.280	0.000		BREF 324.0000 IN. XT
△	3.720	0.000		XHRP 1086.4000 IN. YI
▽	7.710	0.000		YHRP 400.0000 IN. ZI
				ZHRP 400.0000 IN. ZI
				SCALE .003C

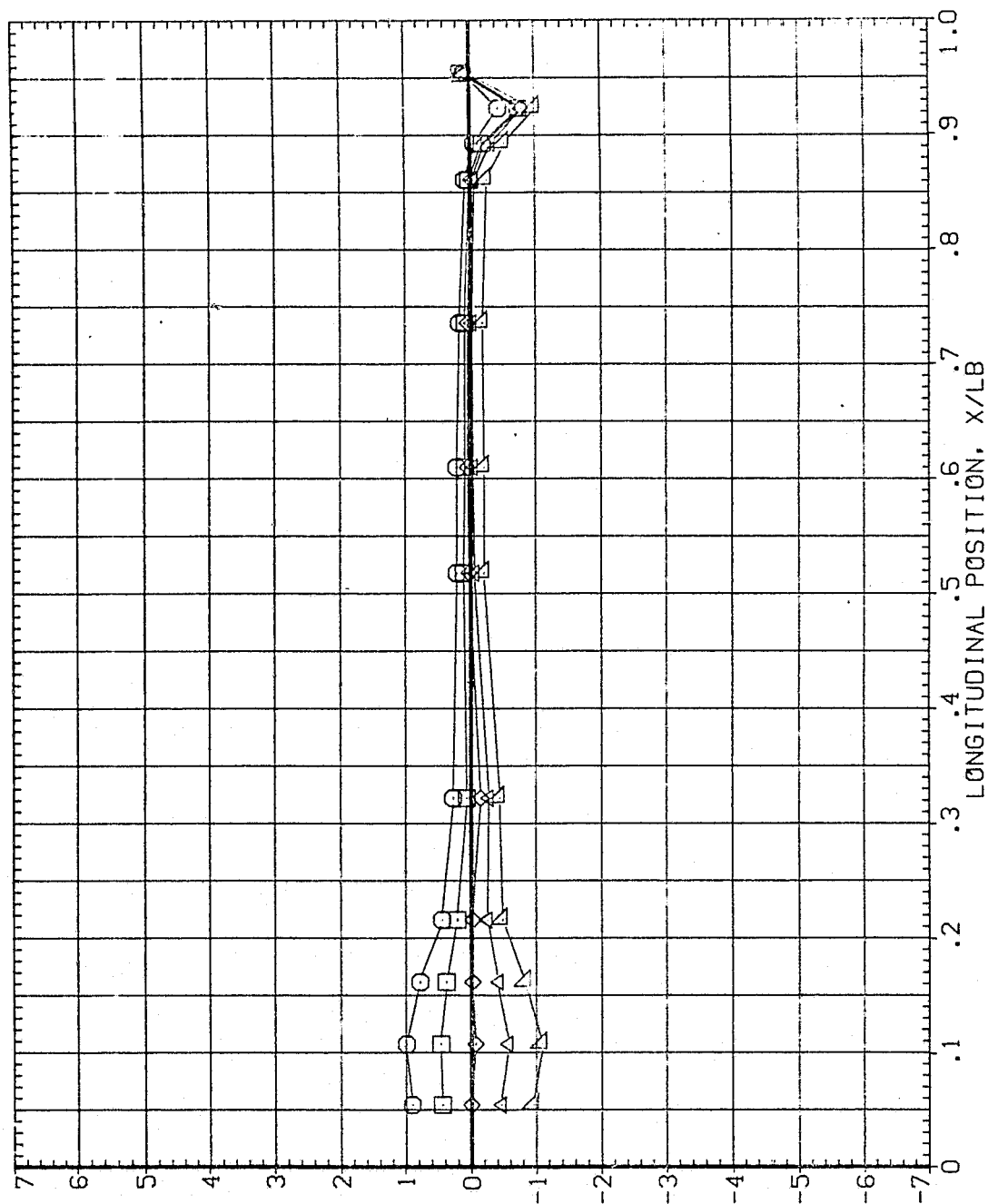


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

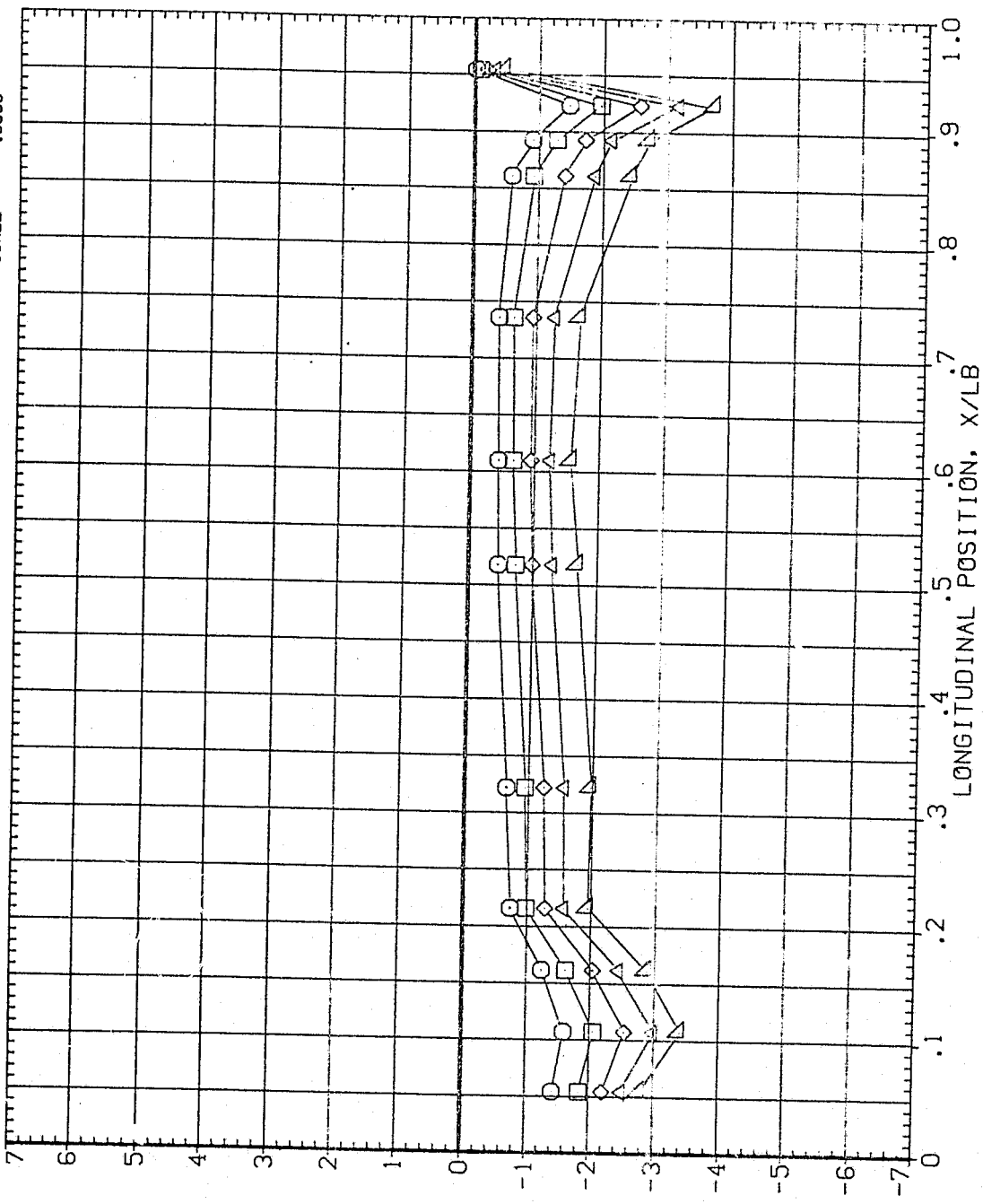
CA/MACH = 3.48

SYMBOL  
 ○ □ ◇ △

ALPHA  
 12.520  
 16.540  
 20.610  
 24.660  
 28.700

PARAMETRIC VALUES  
 BETA  
 .000  
 1.000  
 OFFSET  
 PHI  
 20.000  
 135.000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XHRP 1086.4000 IN. XT  
 YHRP .0000 IN. YT  
 ZHRP 400.0000 IN. ZT  
 SCALE .0030



LOCAL NORMAL FORCE COEFFICIENT, DCNM/DCX/LB)

FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES  
 (A)MACH = 3.48

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (N1A031)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION	
	ALPHA	BETA	PHI	SREF	ET
○	-8.360	.000	.000	572.5500	SC-ES
□	-1.330	1.000	180.000	324.0000	INC-ES
◇	-2.280	.000	.000	1086.4000	INC-ES
△	3.770	.000	.000	400.0000	INC-ES
▽	7.000	.000	.000	400.0000	INC-ES

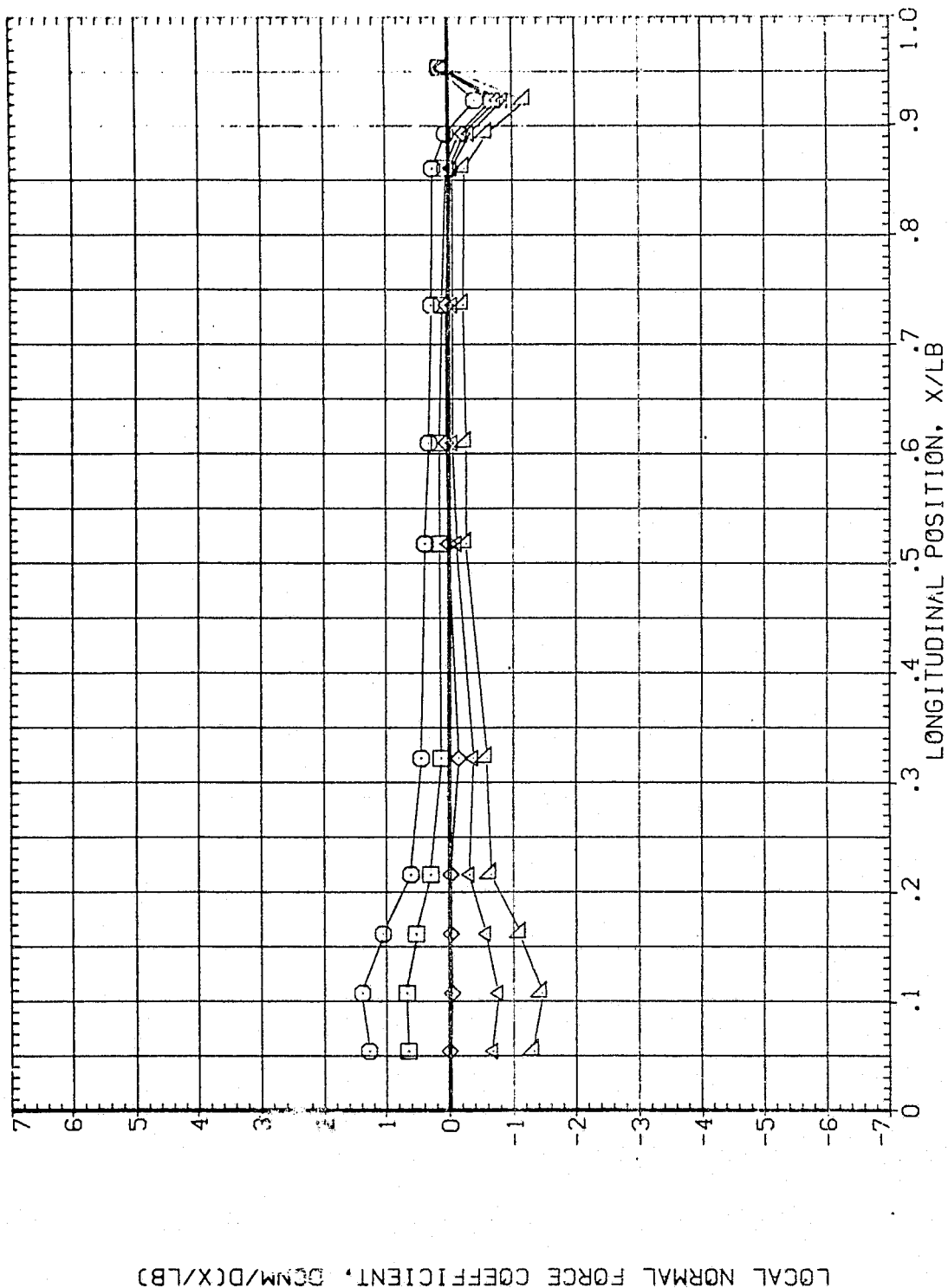


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	ALPHA	BETA	OFFSET	SREF	SO, FT	
○	12.540	.000	PHI	LREF	324.0000	INCHES
□	16.560	1.000	PHI	BREF	324.0000	INCHES
◇	20.610			XHRP	1086.4000	IN. XT
△	24.660			YHRP	.0000	IN. YT
▽	28.700			ZHRP	400.0000	IN. ZT
				SCALE	.0030	

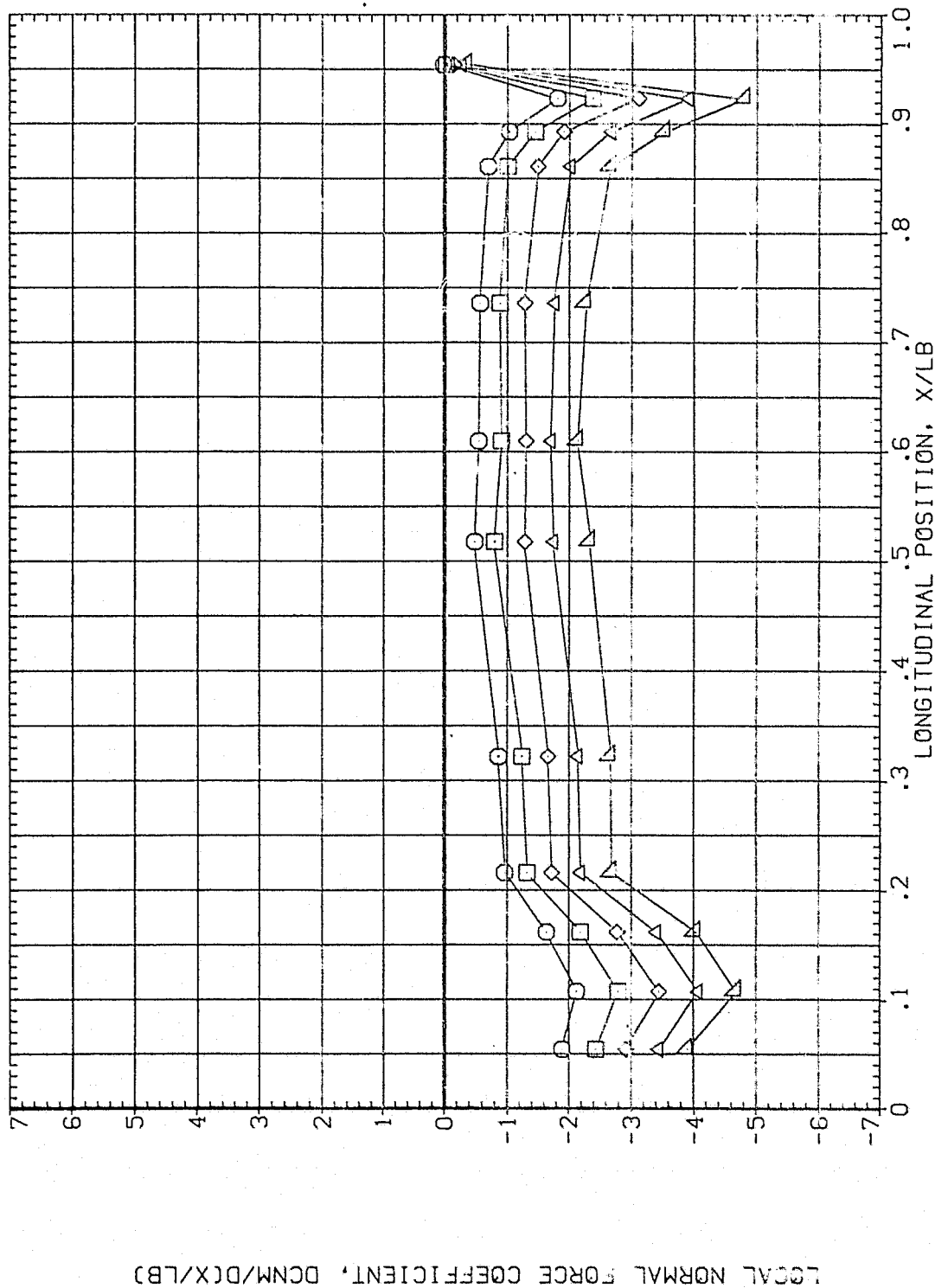


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(M)MACH = 3.48

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (N1A041)

SYMBOL  
 ○  
 □  
 ◇  
 △

ALPHA  
 -8.360  
 -4.330  
 -1.280  
 3.770  
 7.400

PARAMETRIC VALUES  
 .000 .000 .000  
 1.000 PHI 225.000

BETA  
 MOUNT

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 YHRP 1086.4000 IN. Y  
 ZHRP 400.0000 IN. Z  
 SCALE .0030

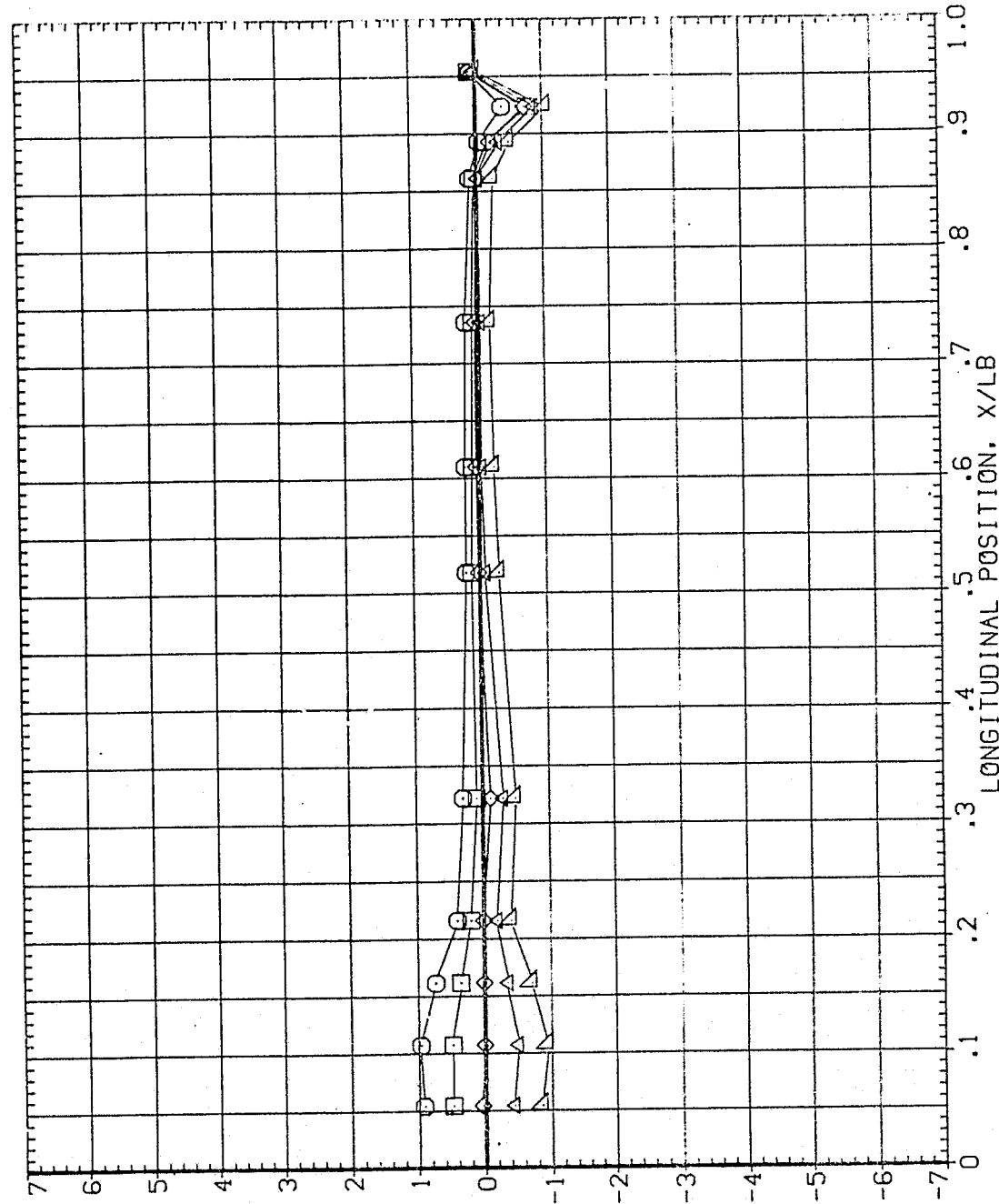


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CAJMACB = 3.48

SYMBOL  
○ □ ◇ △

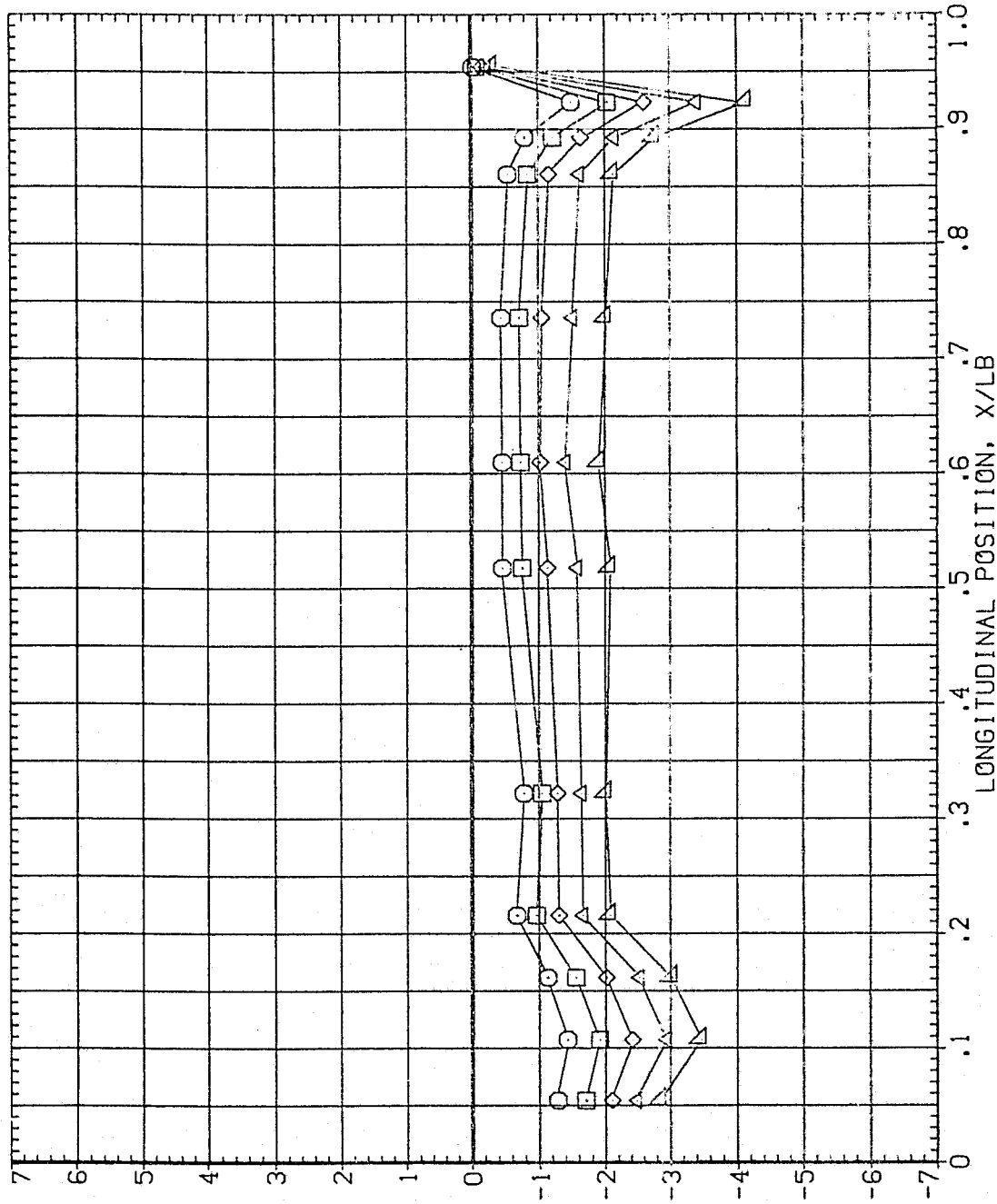
ALPHA  
12.520  
16.560  
20.610  
24.660  
28.720

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
1.000  
PHI

OFFSET  
20.000  
225.000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030



LOCAL NORMAL FORCE COEFFICIENT, DCNM/DC(X/LB)

FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(M)MACH = 3.48

REPRODUCTION OF THE  
ORIGINAL PAGE IS FOR

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (N1A051)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	ALPHA	BETA	OFFSET	SREF	572.5550	SO. FT
○	-8.360	0.000	0.000	LREF	324.0000	INCHES
□	-4.330	1.000	270.000	BREF	324.0000	INCHES
◇	-2.280			XHRP	1086.4000	N. XT
△	3.790			YHRP	.0000	N. Y
▽	7.400			ZHRP	400.0000	N. Z
				SCALE	.0030	

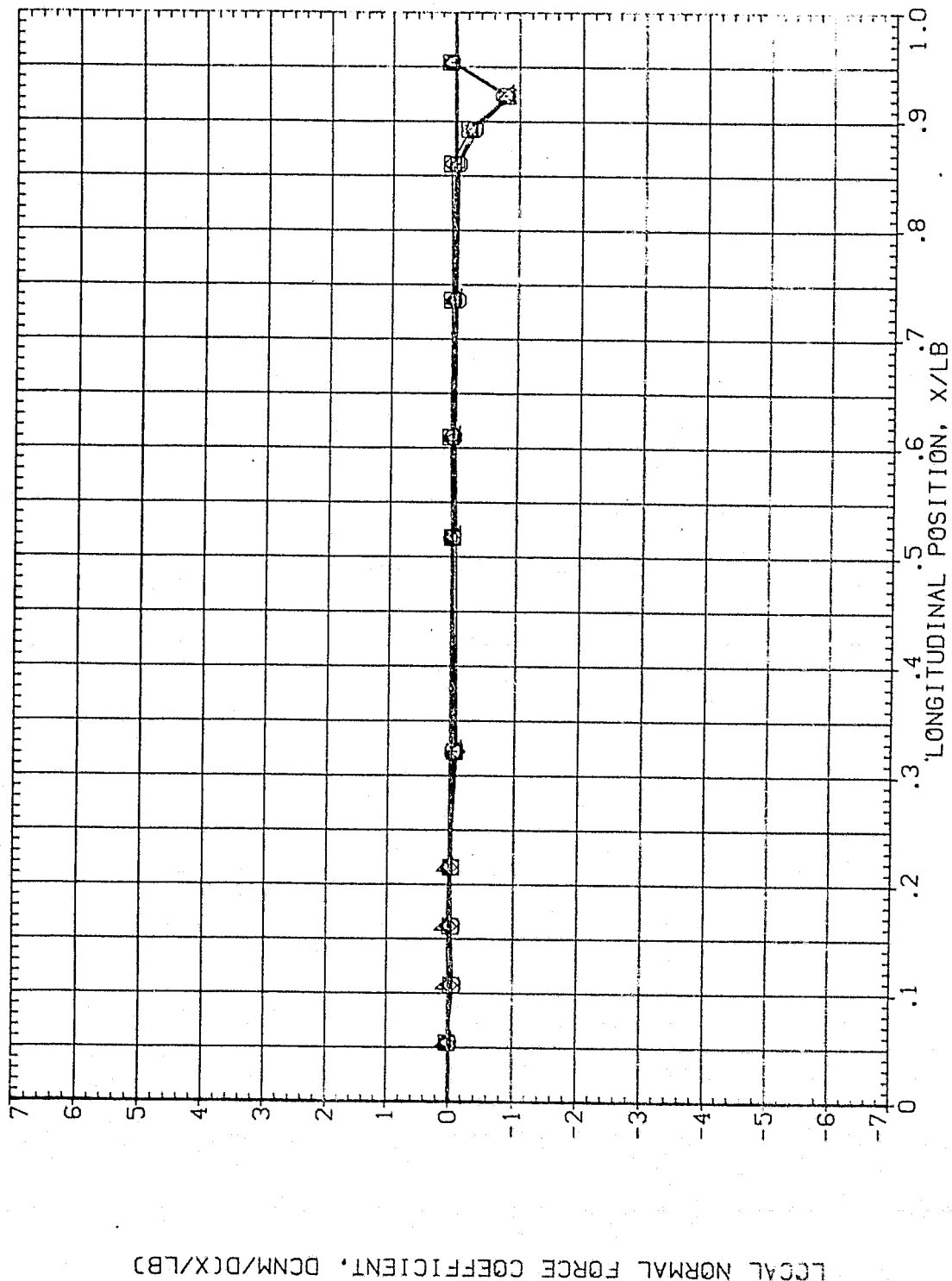


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

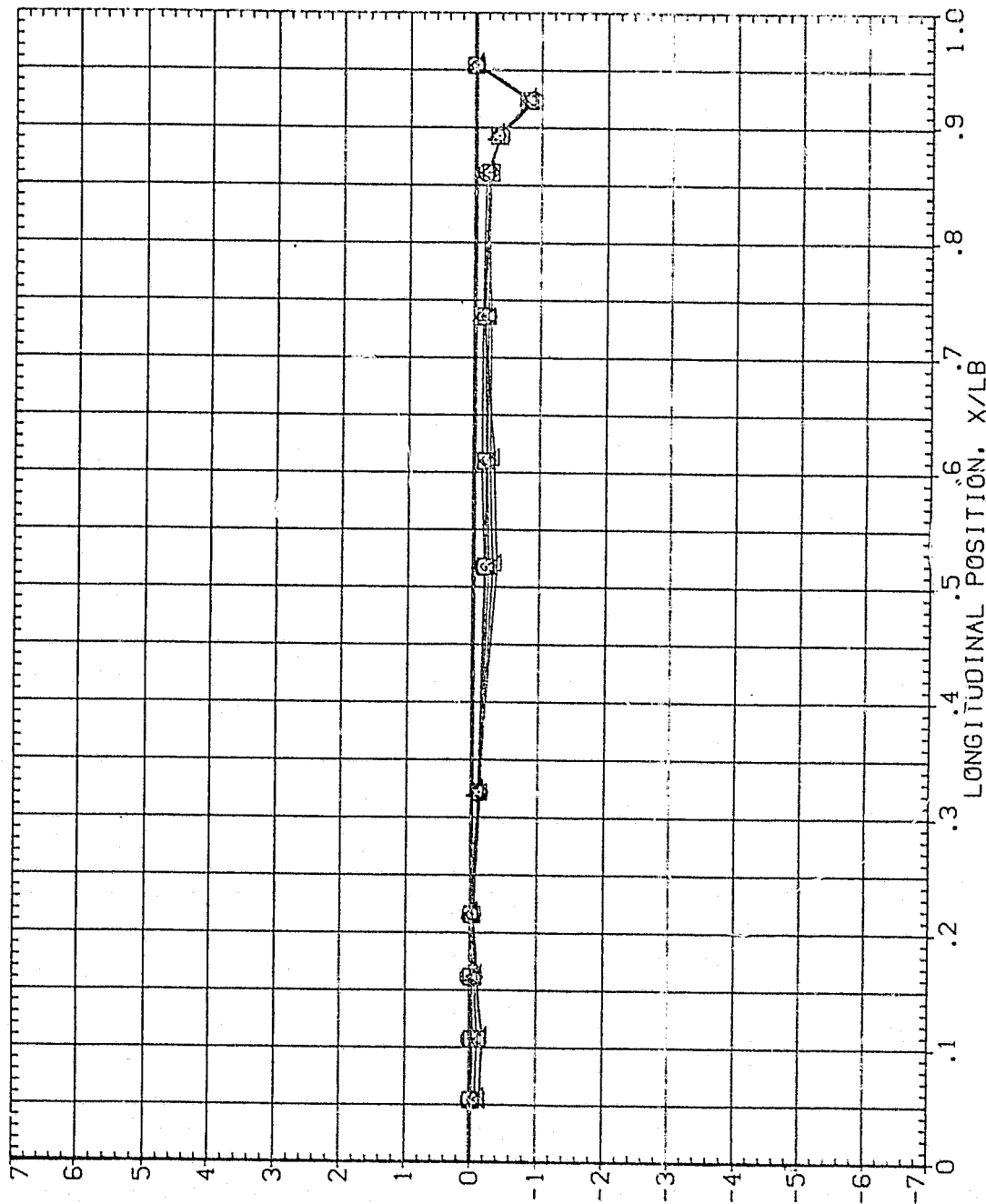
CA/MACH = 3.48

SYMBOL  
 ○  
 □  
 ◇  
 △  
 ▽

ALPHA  
 12.520  
 16.540  
 20.610  
 24.680  
 28.700

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 1.000  
 OFFSET PHI 20.000  
 270.000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030



LOCAL NORMAL FORCE COEFFICIENT, DCNM/DC(X/LB)

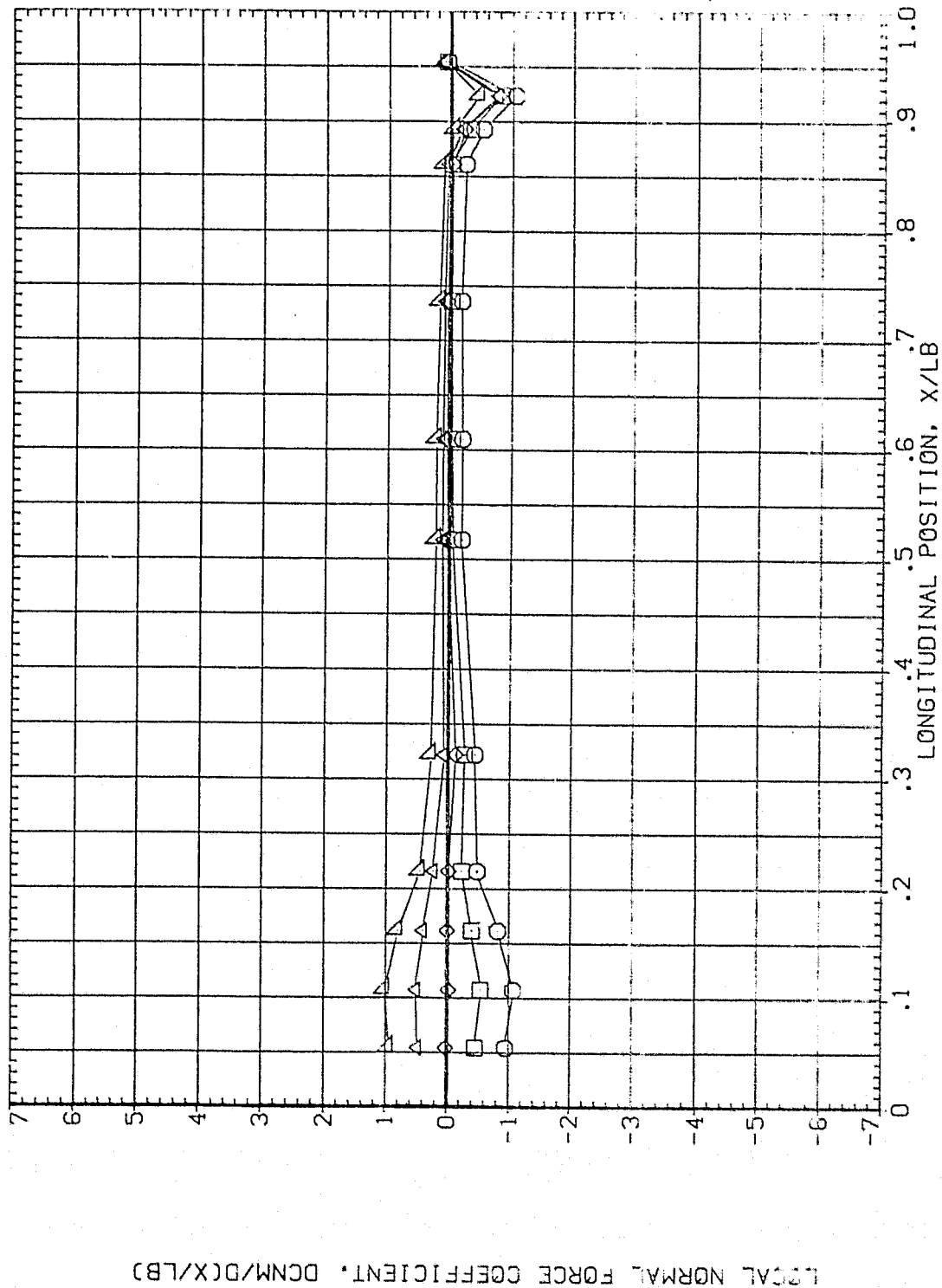
FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (N1A091)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.360	0.000	OFFSET .000	SREF 572.5550 SQ. FT
□	-4.330	1.000	PHI 315.000	LREF 324.0000 INCHES
◇	-2.280			BREF 324.0000 INCHES
△	3.770			XHRP 1086.4000 IN. XT
▽	7.800			YHRP 400.0000 IN. YT
				ZHRP 400.0000 IN. ZT
				SCALE .0030



(N1A096)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1

SYMBOL  
○  
□  
◇  
△

ALPHA  
12.500  
16.560  
20.610  
24.660  
28.700

BETA  
MOUNT

PARAMETRIC VALUES  
.000 OFFSET  
1.000 PHI

20.000  
315.000

REFERENCE INFORMATION  
SREF 572.5550  
LREF 324.0000  
BREF 324.0000  
XHRP 1086.4000  
YHRP .0000  
ZHRP 400.0000  
SCALE .0030

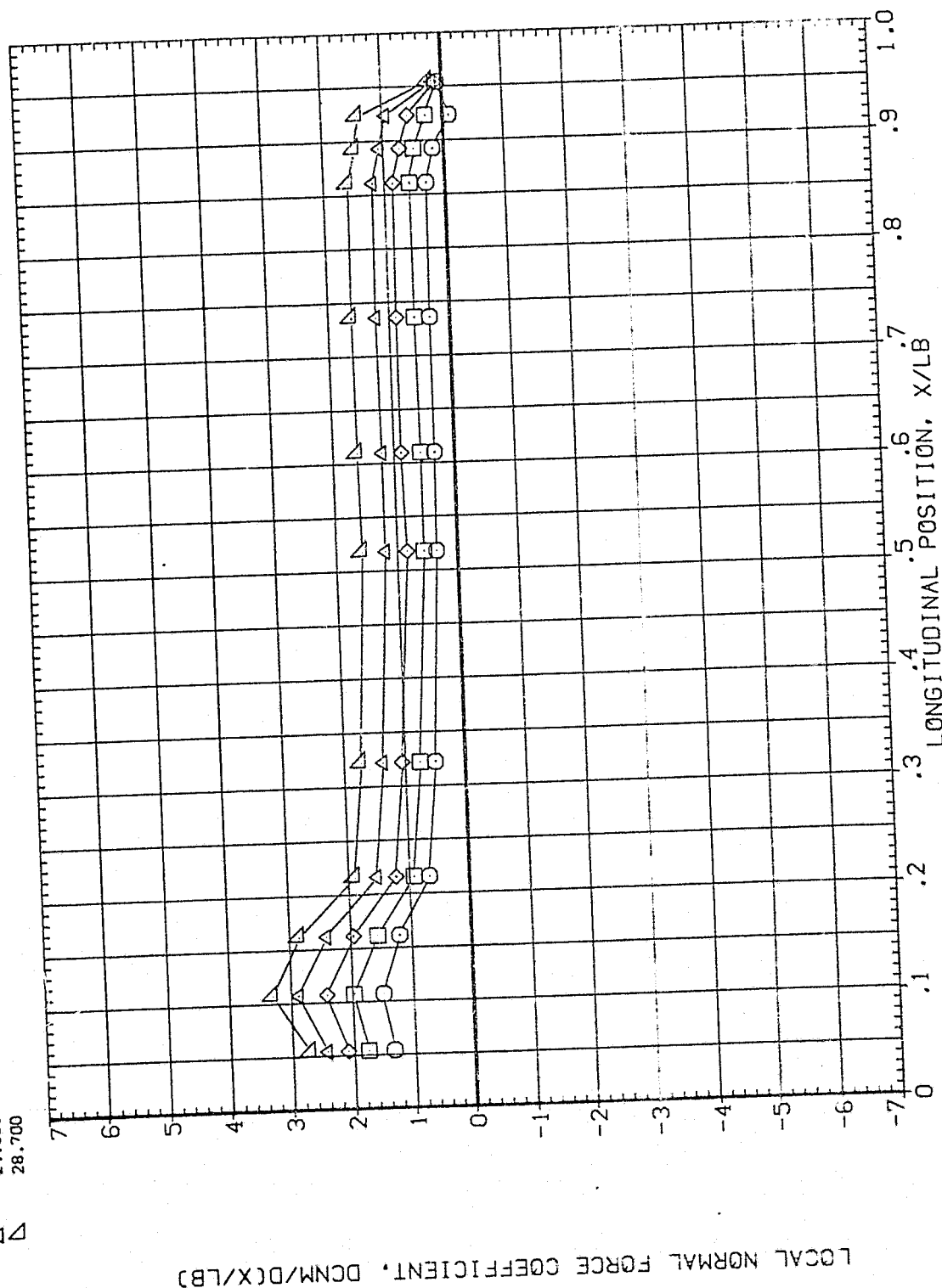


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX01)

SYMBOL

ALPHA  
-8.310  
-4.290  
-2.280  
3.730  
7.750

PARAMETRIC VALUES  
.000 OFFSET  
1.000 PHI

BETA  
MOUNT  
.000  
.000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XHRP 1086.4000 IN. XT  
YHRP .0000 IN. YT  
ZHRP 400.0000 IN. ZT  
SCALE .0030

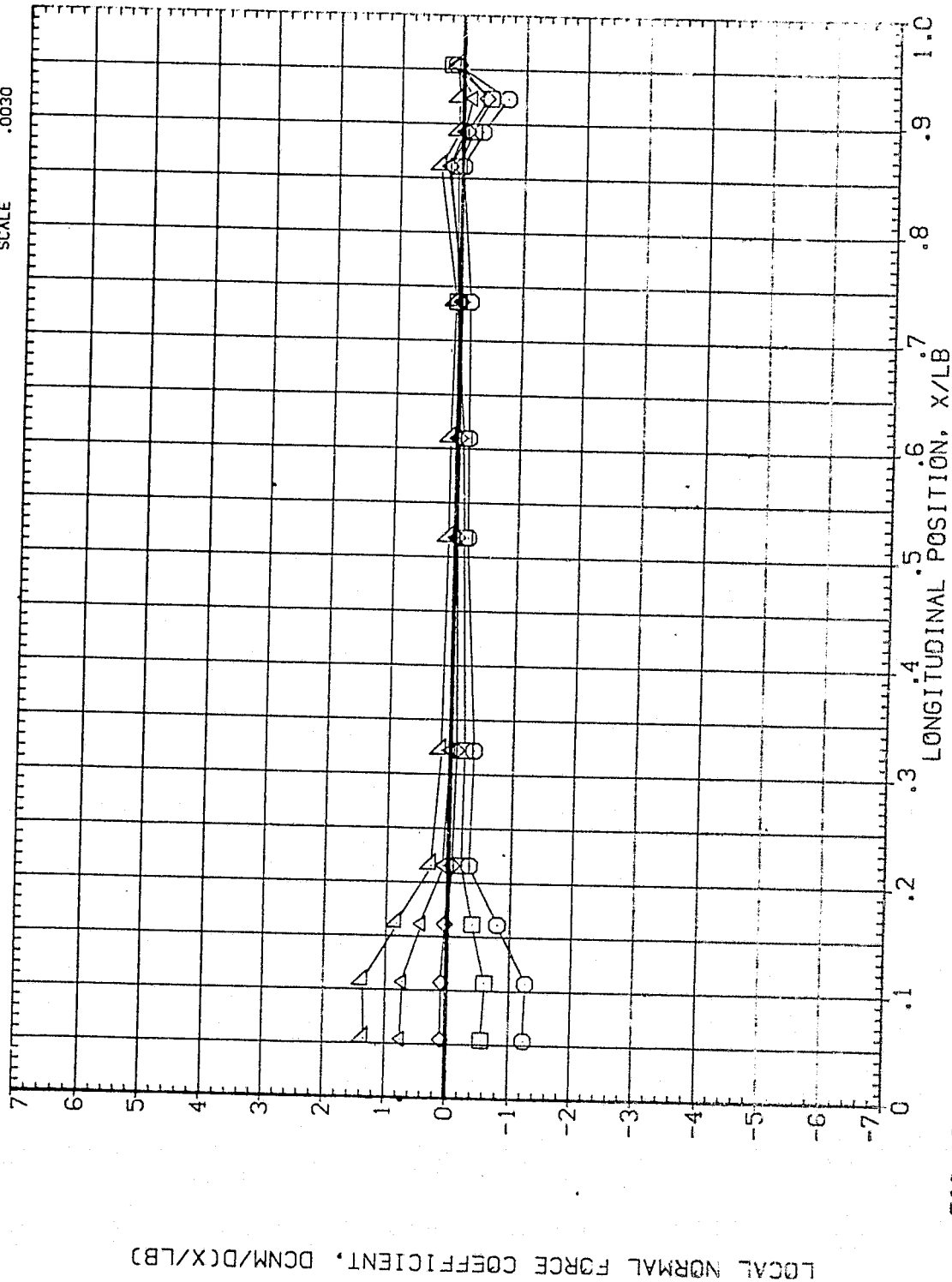


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(MACH = 4.95)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX06)

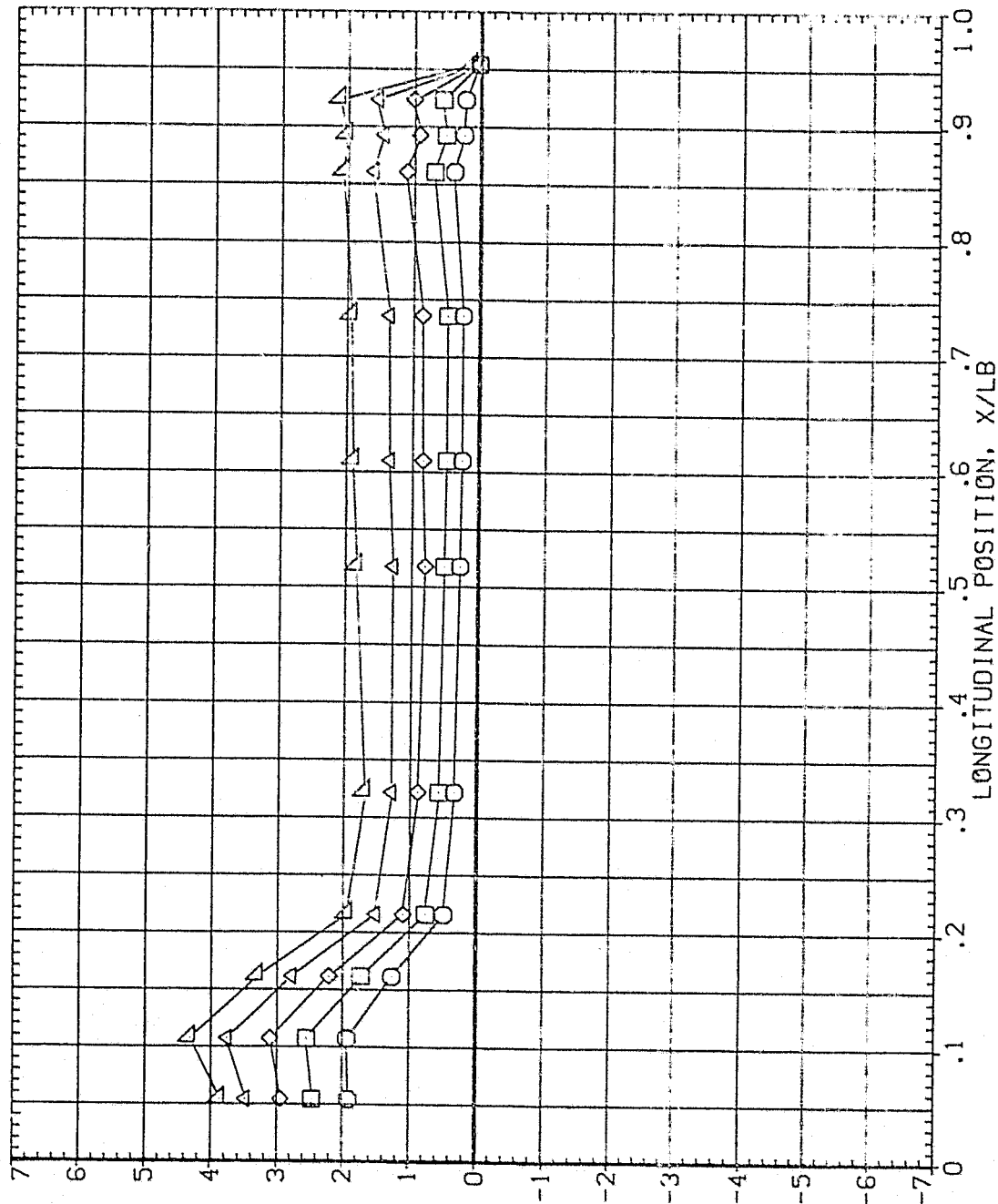
SYMBOL  
 ○  
 □  
 ◇  
 △

ALPHA  
 12.450  
 16.470  
 20.490  
 24.510  
 28.540

PARAMETRIC VALUES  
 .000 OFFSET 20.000  
 1.000 PHI .000

BETA  
 MOUNT

REFERENCE INFORMATION  
 SREF 572.5550 SC. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030



LOCAL NORMAL FORCE COEFFICIENT, DCNM/DCX/LB)

FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX81)

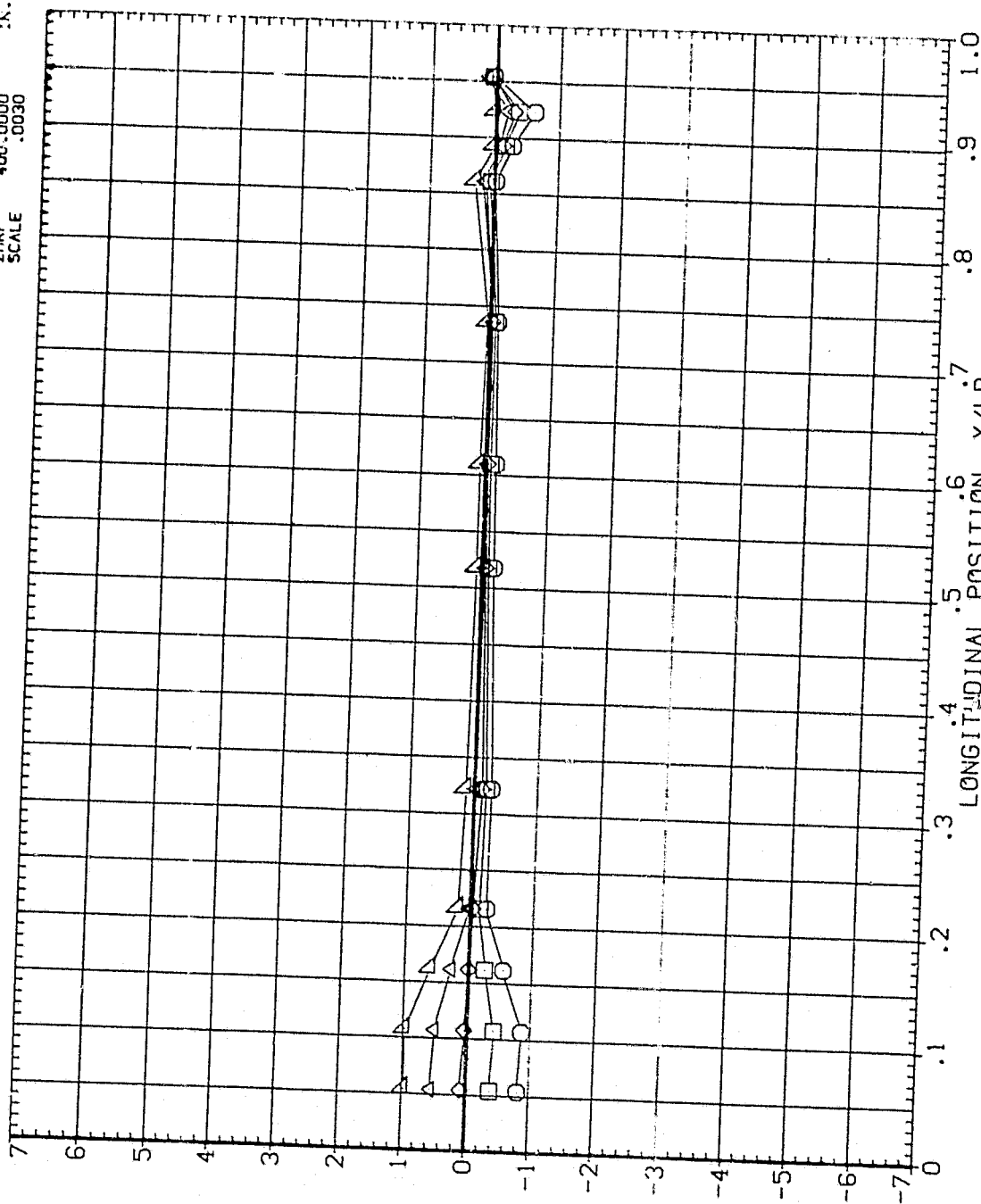
SYMBOL

ALPHA  
-8.330  
-4.290  
-2.280  
3.730  
7.750

PARAMETRIC VALUES  
BETA  
HOUNT  
1.000  
1.000  
1.000  
1.000  
1.000

OFFSET  
PHI  
45.000  
45.000  
45.000  
45.000  
45.000

REFERENCE INFORMATION  
SREF 572.5530  
LREF 324.0000  
BREF 324.0000  
XMRP 1086.4000  
YMRP .0000  
ZMRP 400.0000  
SCALE .0030



LOCAL NORMAL FORCE COEFFICIENT,  $DC_{NM}/D(X/LB)$

FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES  
CAJ MACH = 4.96

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	ALPHA	BETA	OFFSET	SREF	SO. FT	
□	12.450	16.470	.000	LREF	324.0000	INCHES
◇	20.490	24.510	1.000	BREF	324.0000	INCHES
△	28.540		PHI	YMRP	1086.4000	IN. YI
				ZMRP	400.0000	IN. ZI
				SCALE	.0030	

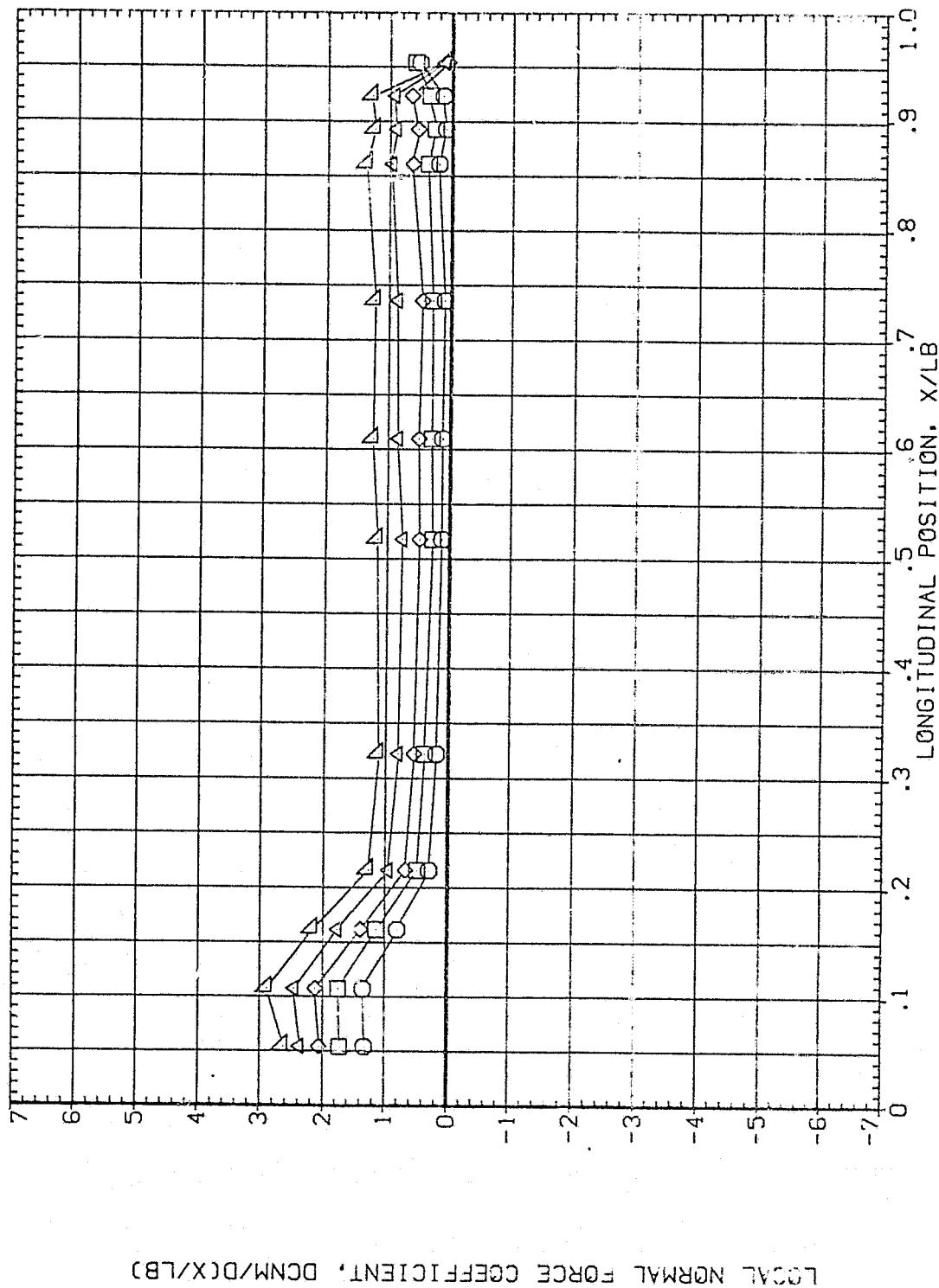


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(M)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX11)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
□	-8.310	MOUNT	.000	SREF 572.5550
◇	-4.290	PHI	.000	LREF 324.0000
△	-2.280		90.000	BREF 324.0000
▽	3.730			XMRF 1086.4000
▴	7.750			YMRF 400.0000
				ZMRF 400.0000
				SCALE .0030

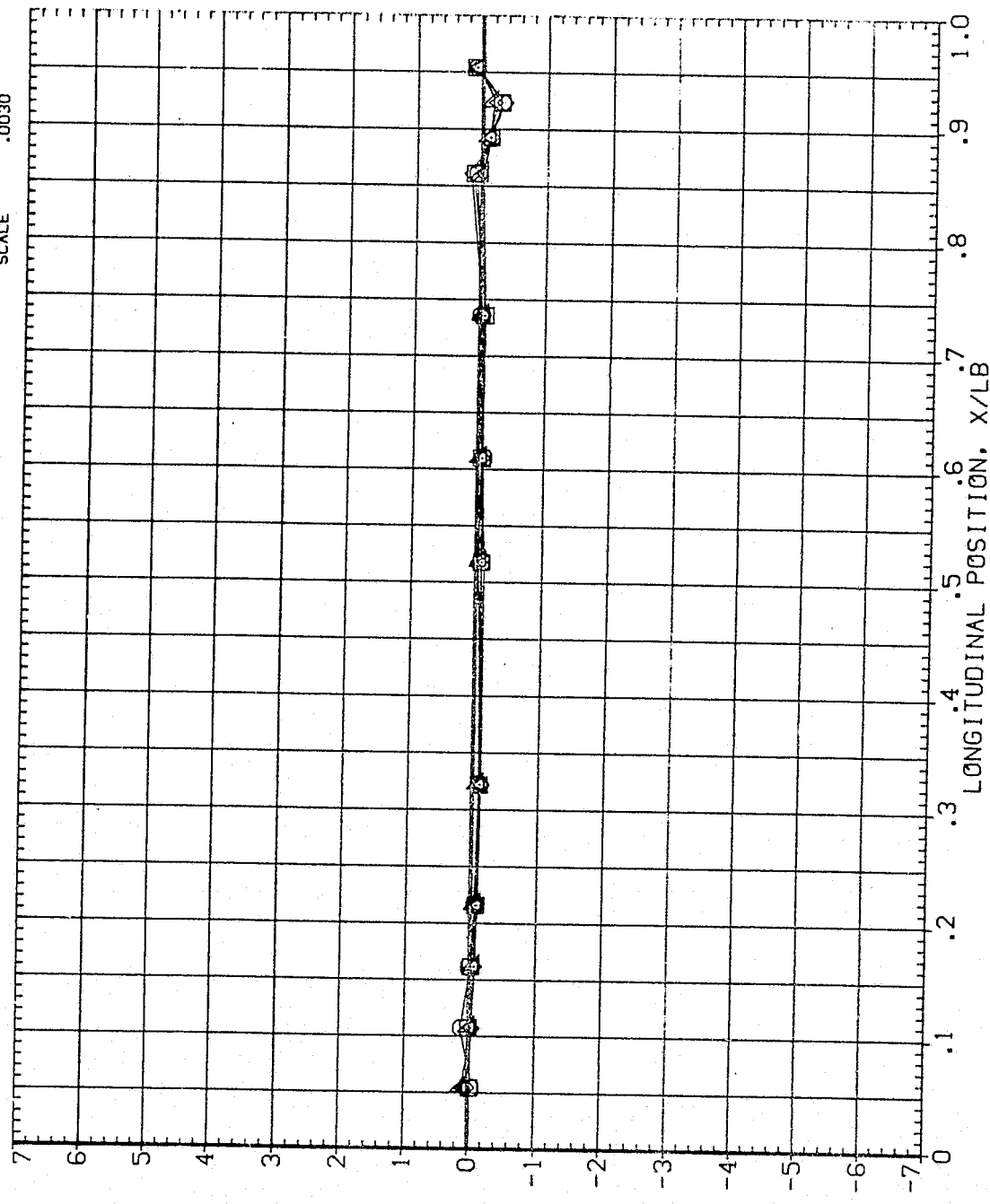
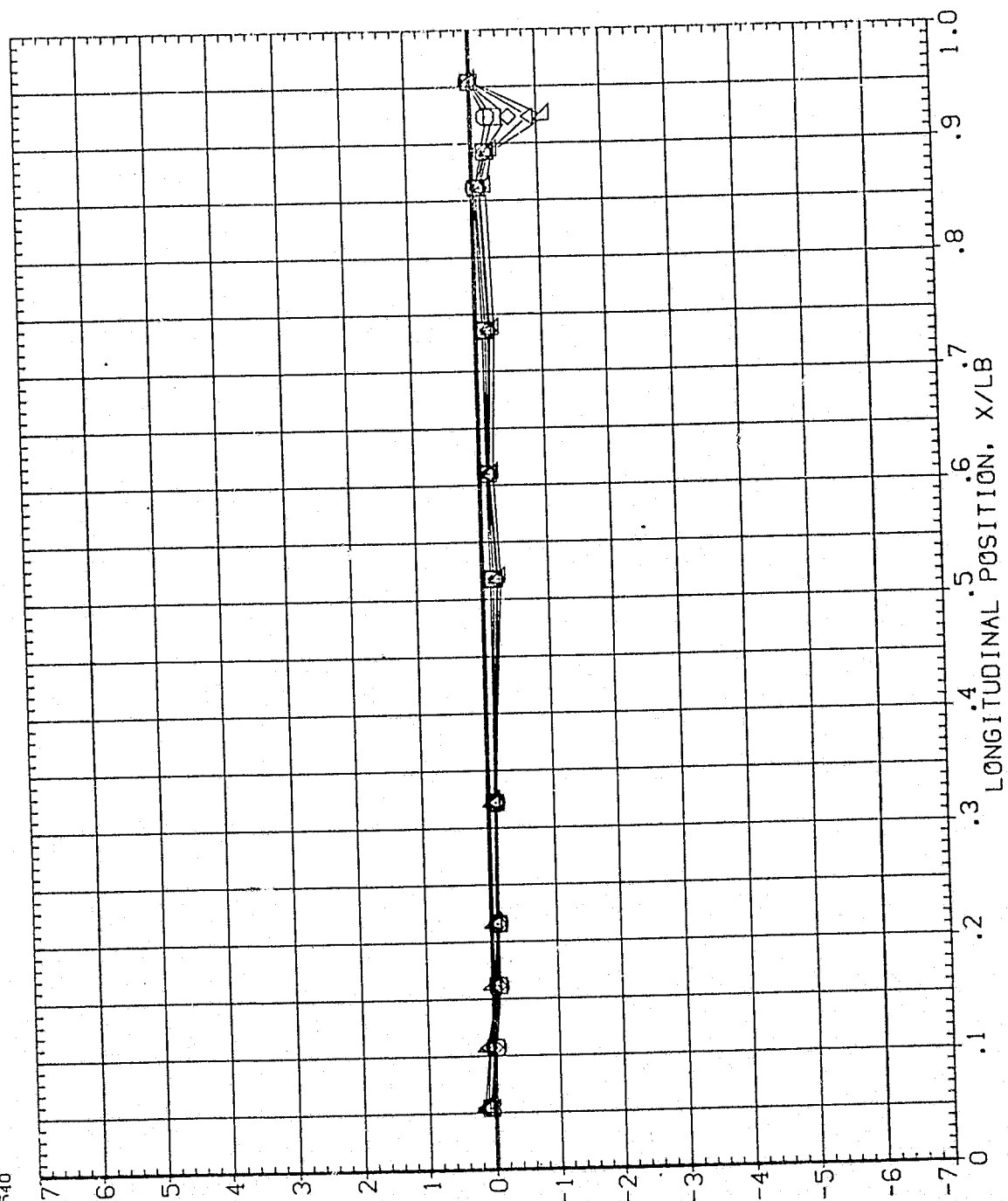


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES  
(A)MACH = 4.96

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030

PARAMETRIC VALUES  
ALPHA 12.450  
BETA 20.000  
MOUNT 90.000  
PHI .000  
OFFSET 1.000

SYMBOL  
□  
◇  
△  
▽



LOCAL NORMAL FORCE COEFFICIENT, DCNM/DC(X/LB)

FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CAJ MACH = 4.96



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX21)

SYMBOL  
 ○  
 □  
 ◇  
 △

PARAMETRIC VALUES

ALPHA  
 -8.310  
 -4.280  
 -.280  
 3.730  
 7.750

BETA  
 MOUNT  
 .000  
 1.000  
 .000  
 135.000

PHI

REFERENCE INFORMATION

SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1386.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

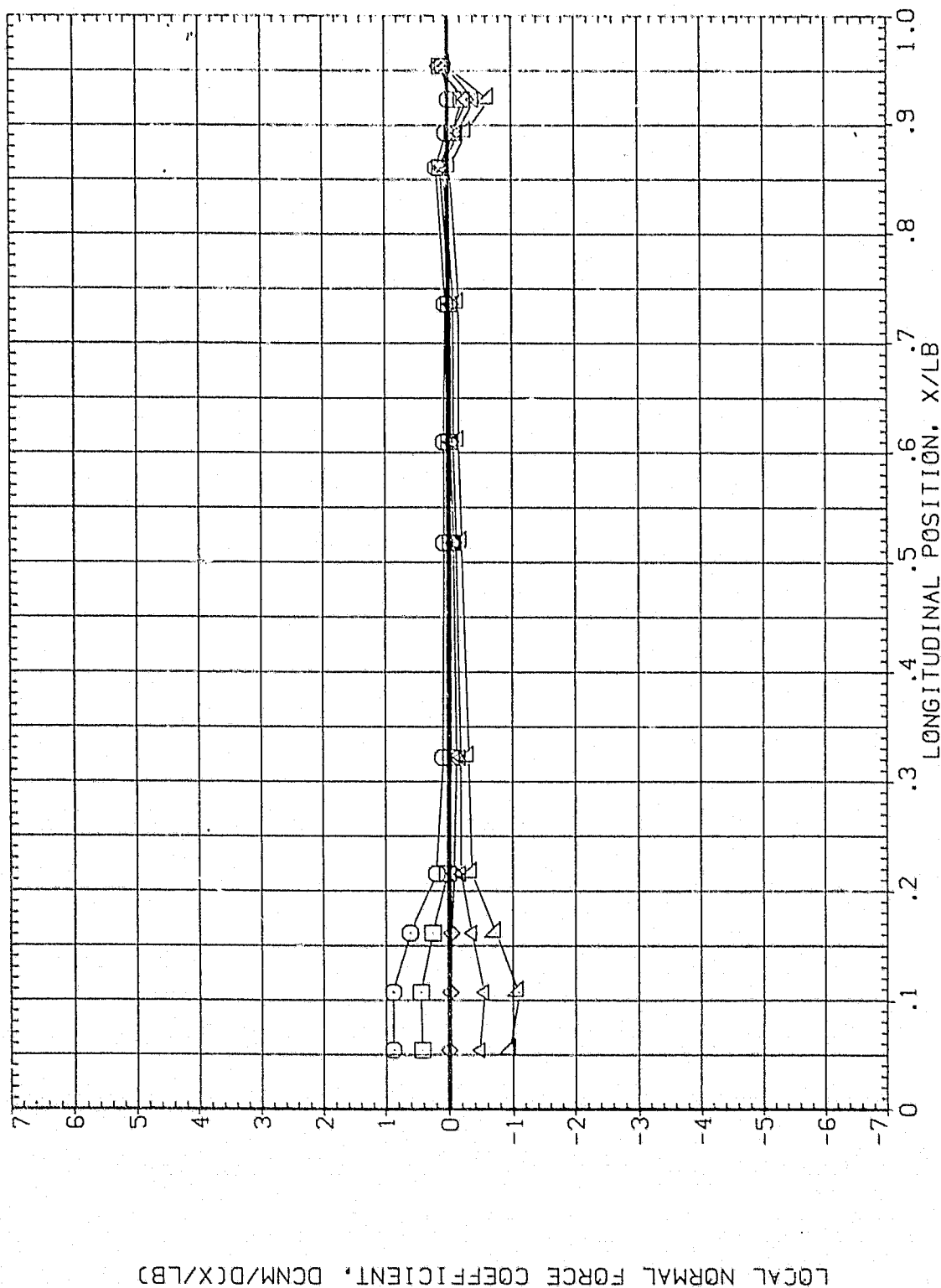


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A) MACH = 4.96

SYMBOL  
 ○  
 □  
 ◇  
 △

ALPHA 12.450  
 BETA 16.450  
 HOUNT 20.490  
 24.510  
 28.510

PARAMETER  
 .000  
 1.000  
 PHI  
 20.000  
 135.000

REFERENCE INFORMATION  
 SREF 572.5950  
 LREF 324.0000  
 BREF 324.0000  
 XRRP 1086.4000  
 YRRP 400.0000  
 ZRRP 400.0000  
 SCALE .0030

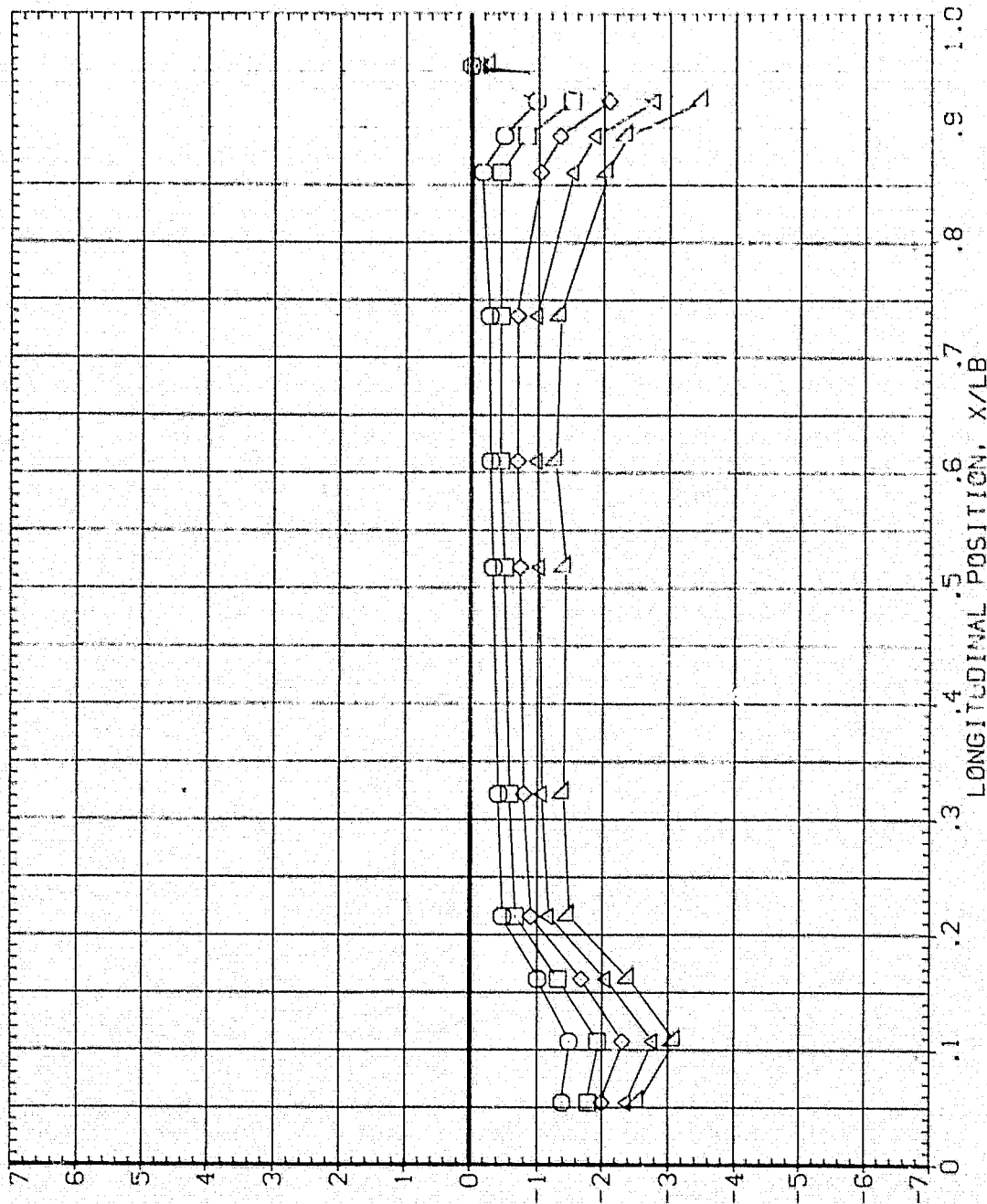


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CAOMACH = 4.96

REPRODUCED FROM THE  
 ORIGINAL DOCUMENT

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX31)

SYMBOL  
○ □ ◇ △

PARAMETRIC VALUES  
ALPHA -8.290  
BETA -4.290  
MOUNT -280  
3.730  
7.750  
OFFSET 180.000  
PHI .000

REFERENCE INFORMATION  
SREF 572.5550  
LREF 324.0000  
BREF 324.0000  
XMRP 1086.4000  
YMRP .0000  
ZMRP 400.0000  
SCALE .0030  
SO. FT  
INCHES  
IN. XT  
IN. YT  
IN. ZT

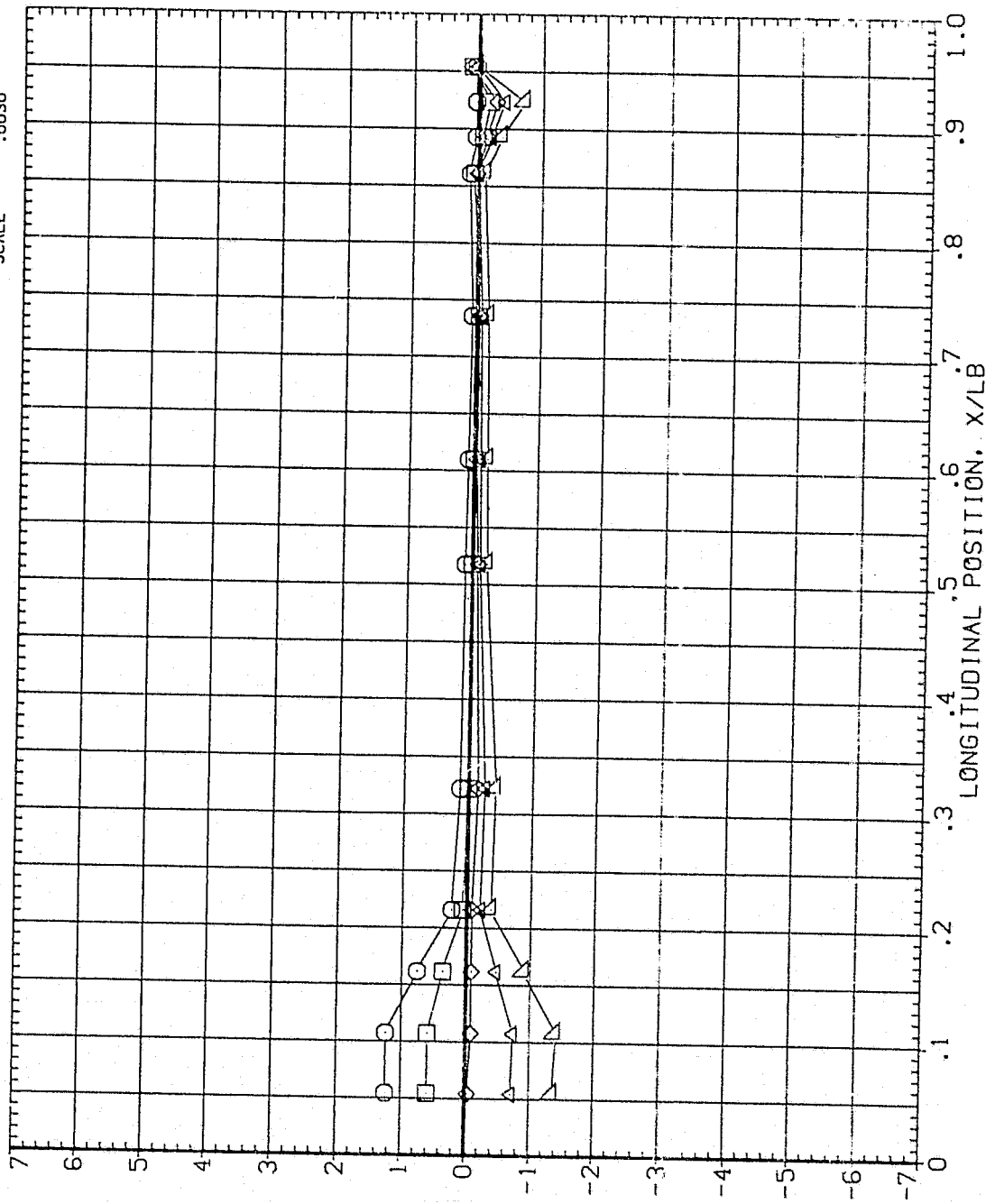


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES  
CA/MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX36)

SYMBOL  
○ □ ◇ △ ▽

ALPHA  
12.450  
16.470  
20.490  
24.510  
28.560

PARAMETRIC VALUES  
BETA  
HOUNT  
.000  
1.000  
OFFSET  
PHI  
20.000  
180.000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XHRP 1086.4000 IN. X1  
YHRP 400.0000 IN. Y1  
ZHRP 400.0000 IN. Z1  
SCALE .0030

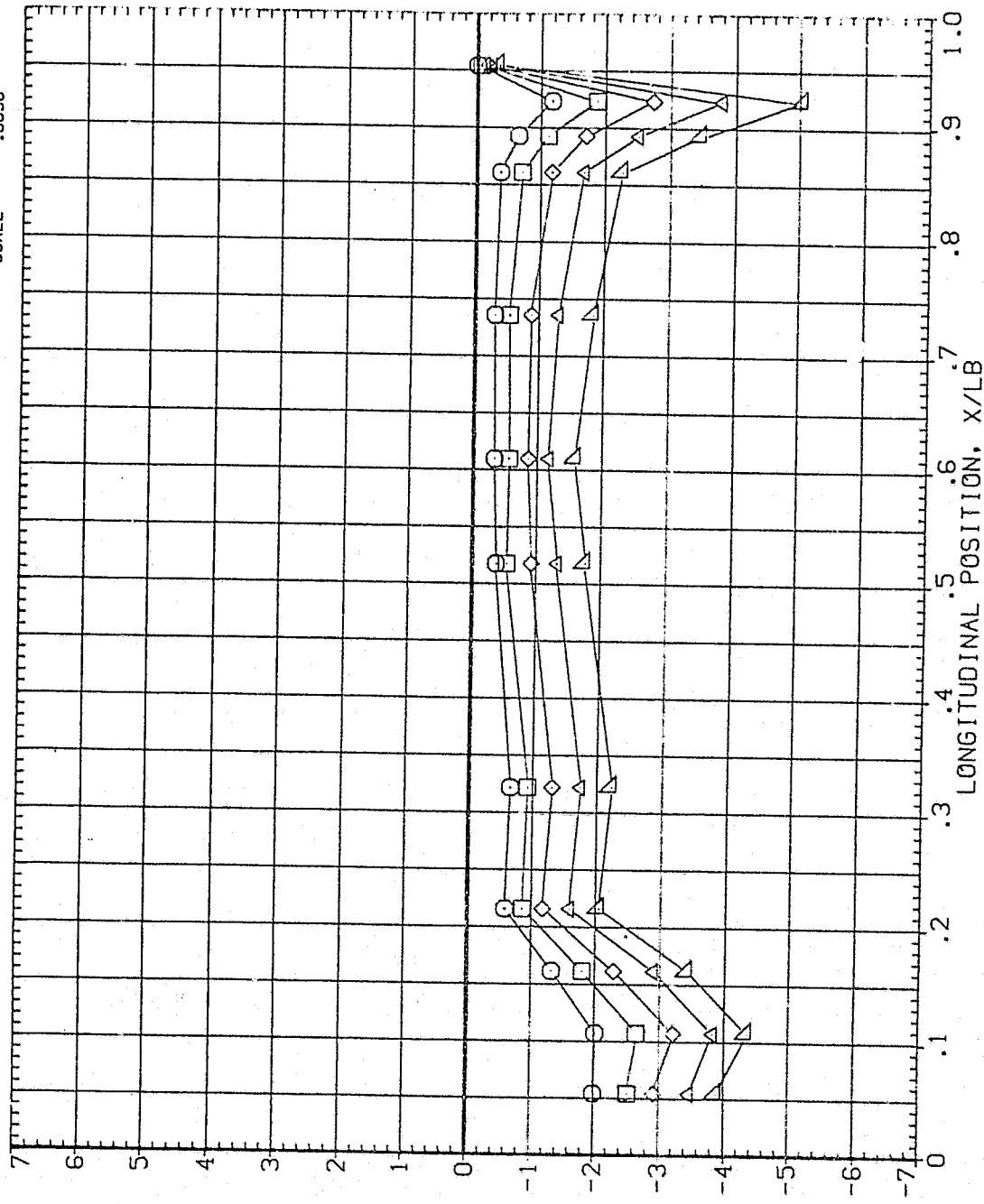


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX41)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.310	0.000	OFFSET	SREF 572.5550
□	-4.290	1.000	PHI	LREF 324.0000
◇	-1.280	225.000		BREF 324.0000
△	3.730			XMRP 1086.4000
▽	7.750			YMRP .0000
				ZMRP 400.0000
				SCALE .0030
				SD. FT
				INCHES
				IN. X
				IN. Y
				IN. Z

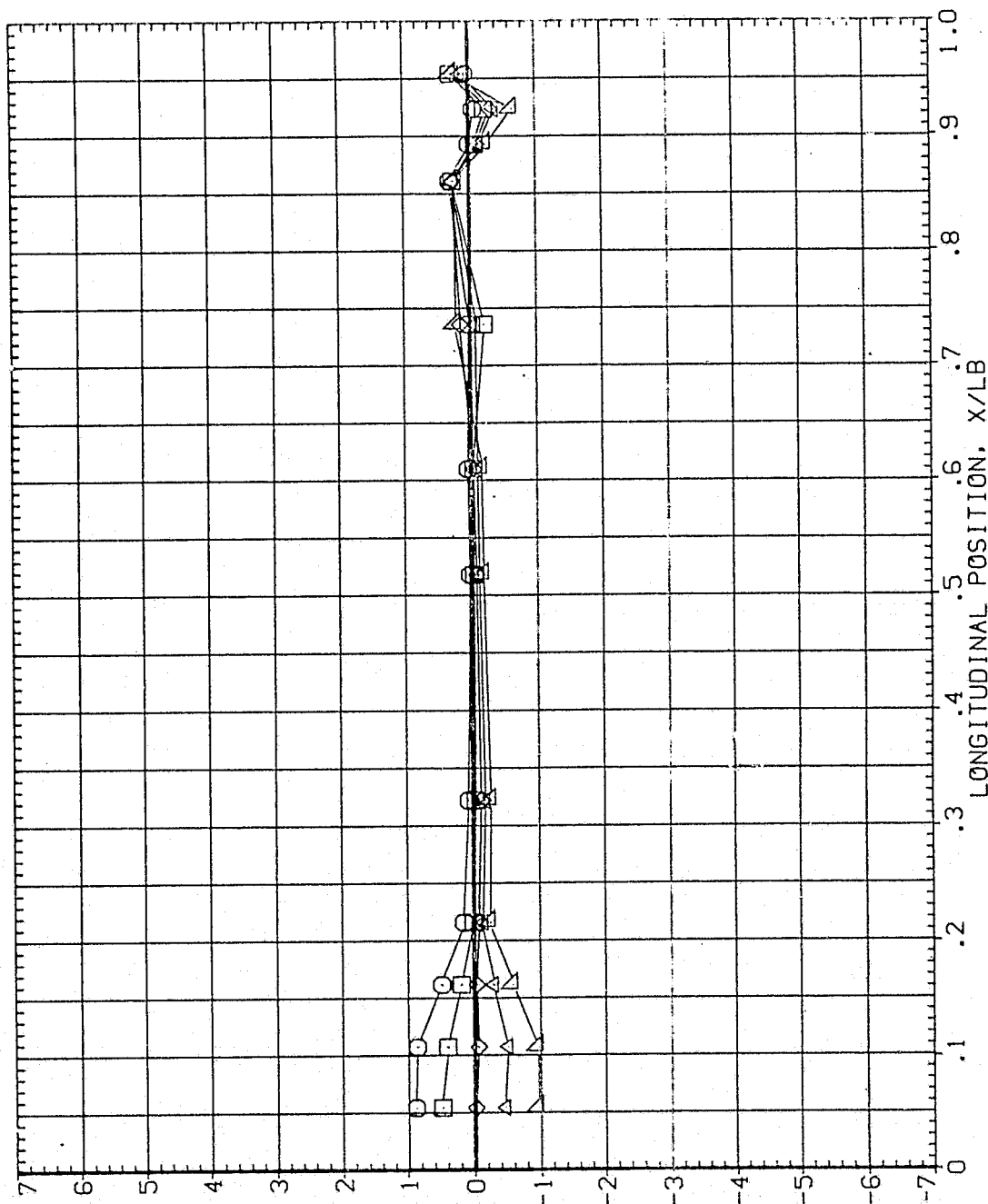


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX46)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	12.450	0.000	OFFSET 20.000	SREF 572.5550
□	16.450	1.000	PHI 225.000	LREF 324.0000
◇	20.490			BREF 324.0000
△	24.510			XMRP 1086.4000
▽	28.540			YMRP .0000
				ZMRP 400.0000
				SCALE .0030

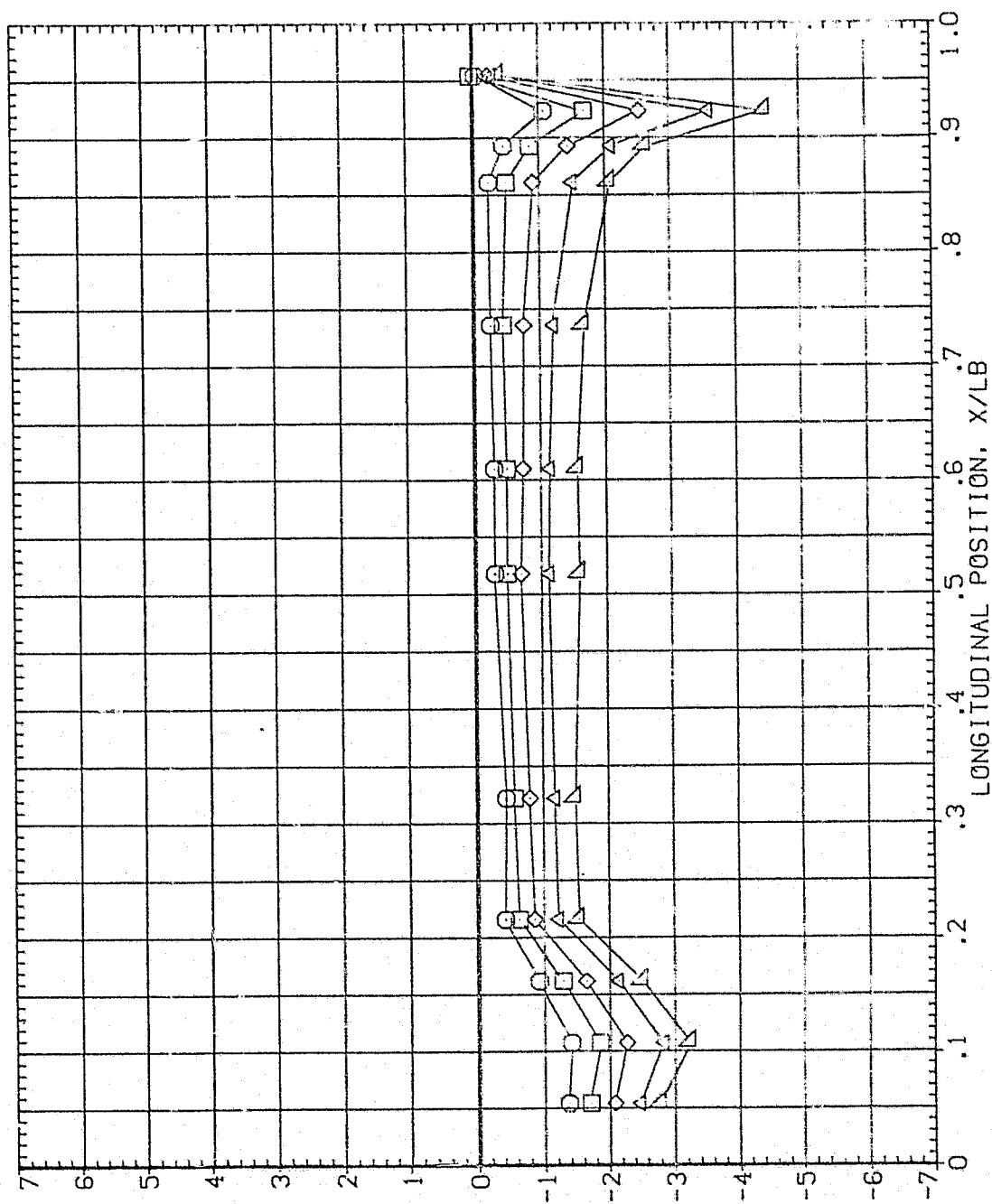


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX51)

SYMBOL  
 ○  
 □  
 ◇  
 △

ALPHA  
 -8.310  
 -4.290  
 -.280  
 3.750  
 7.750

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 GFFSET .000  
 1.000 PHI 270.000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

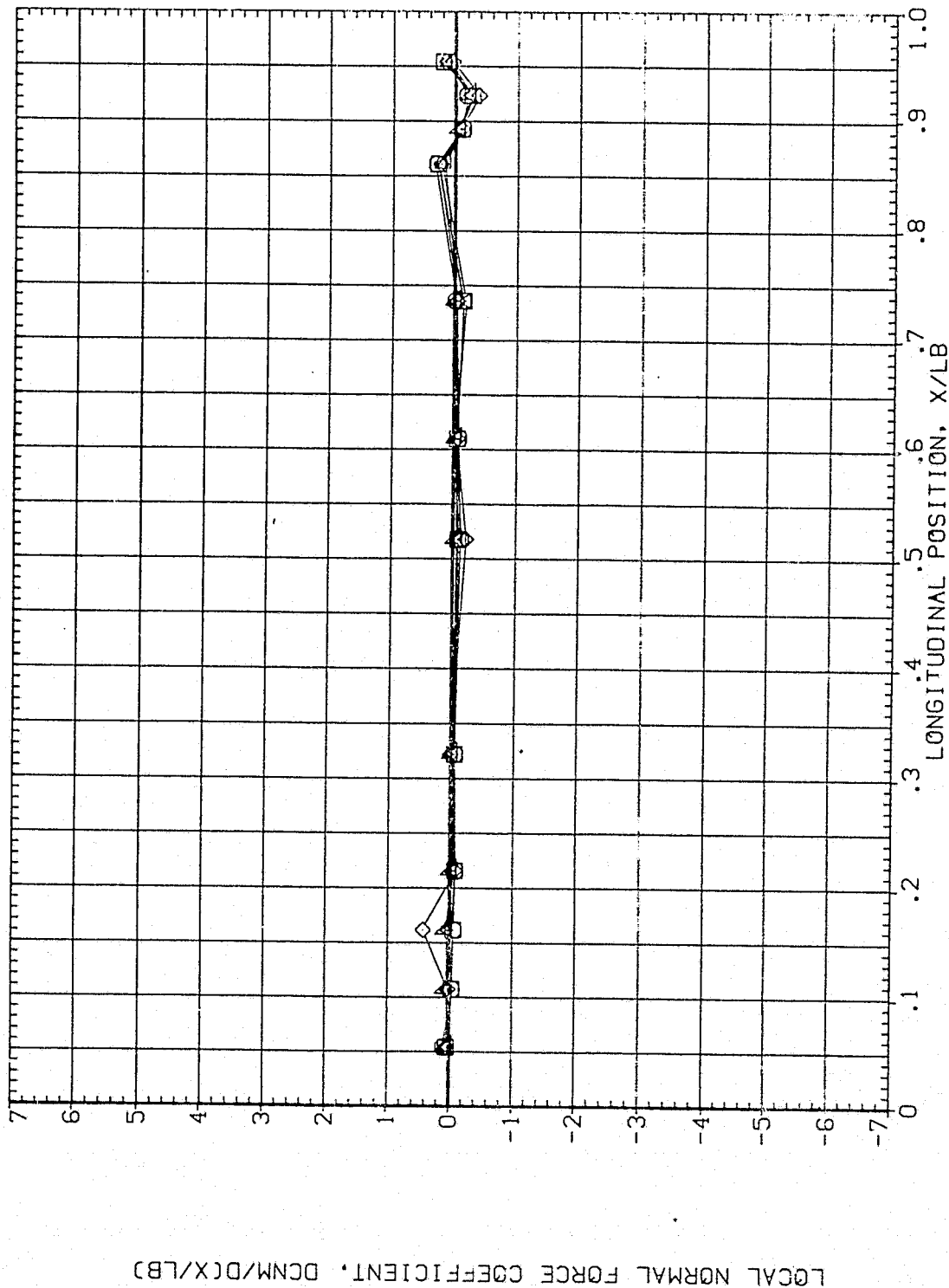


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CA/MACH = 4.96

PARAMETRIC VALUES			REFERENCE INFORMATION		
ALPHA	BETA	PHI	SREF	LREF	BREF
12.450	16.450	20.490	572.5550	324.0000	324.0000
24.530	28.540		1086.4000	400.0000	400.0000
			SCALE		

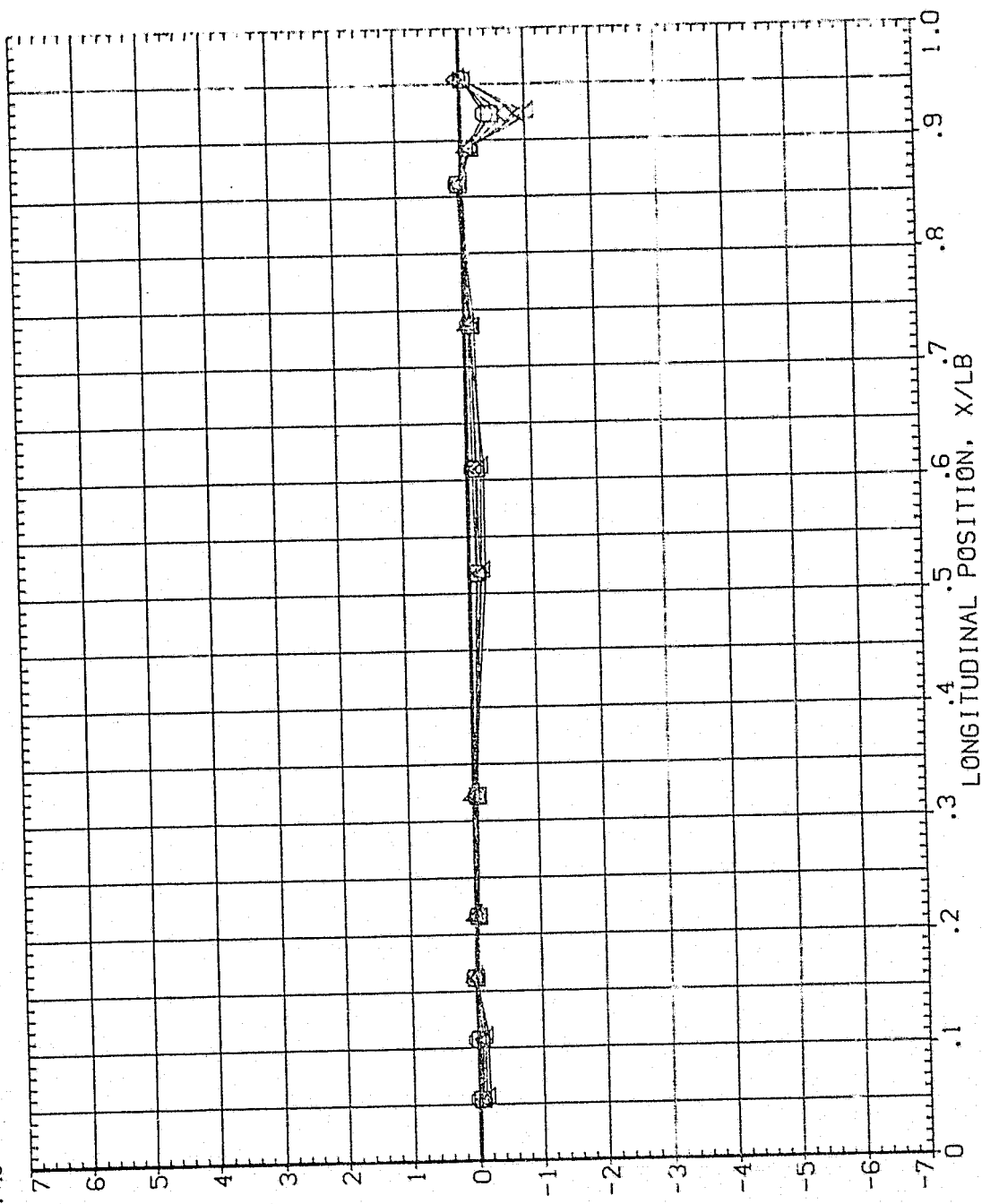


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (M1AX91)

SYMBOL  
 ○  
 □  
 ◇  
 △  
 ▽

ALPHA  
 -8.310  
 -4.290  
 -.280  
 3.730  
 7.750

PARAMETRIC VALUES  
 .000 .000 .000  
 BETA OFFSET PHI  
 1.000 315.000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XHRP 1086.4000 IN. XT  
 YHRP 400.0000 IN. YT  
 ZHRP 400.0000 IN. ZT  
 SCALE .0030

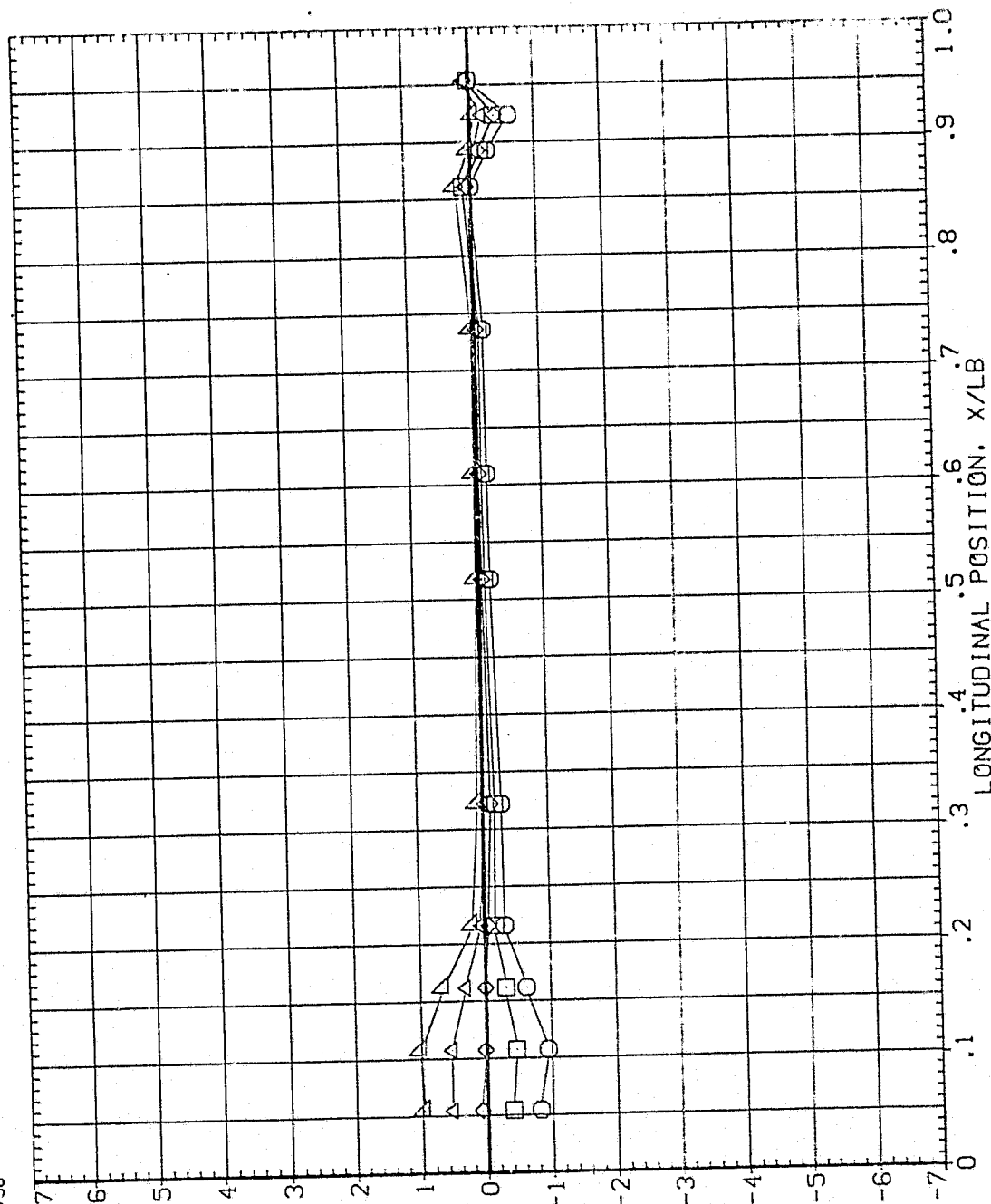


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	ALPHA	BETA	PHI	SREF	SO, FT	INCHES
○	12.430	.000	20.000	LREF	572.5550	324.0000
□	16.470	1.000	315.000	BREF	324.0000	1086.4000
◇	20.490			XHRP	.0000	400.0000
△	24.510			YHRP	.0000	.0030
▽	28.540			ZHRP		

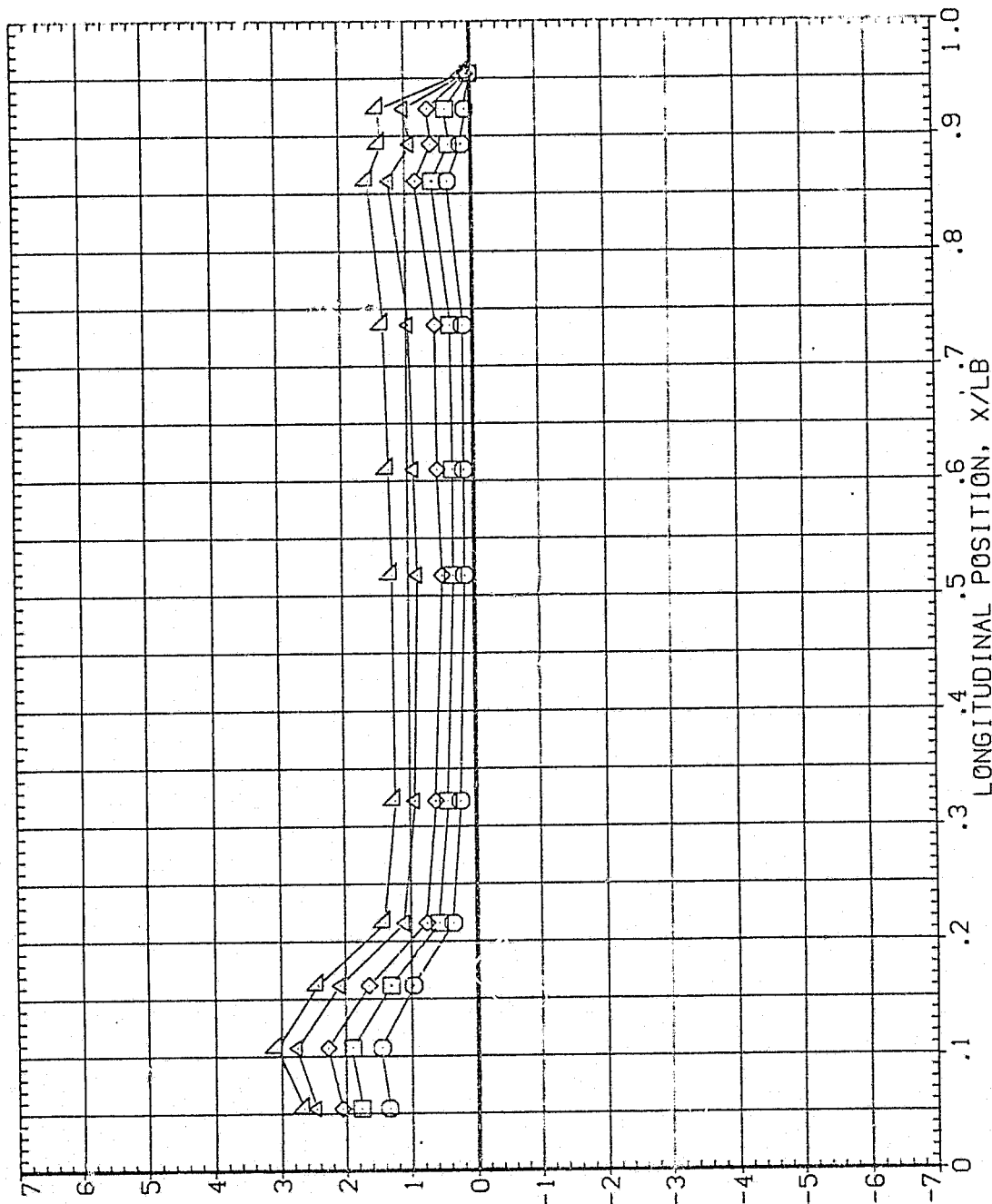


FIG. 6 LOCAL NORMAL FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CA/MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (B1AX01)

SYMBOL  
 ○  
 □  
 ◇  
 △  
 ▽

ALPHA  
 -8.380  
 -4.330  
 -1.280  
 3.790  
 7.860

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 1.000  
 OFFSET .000  
 PHI .000

REFERENCE INFORMATION  
 SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4800  
 YMRP .0000  
 ZMRP 400.0000  
 SCALE .0030

LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB

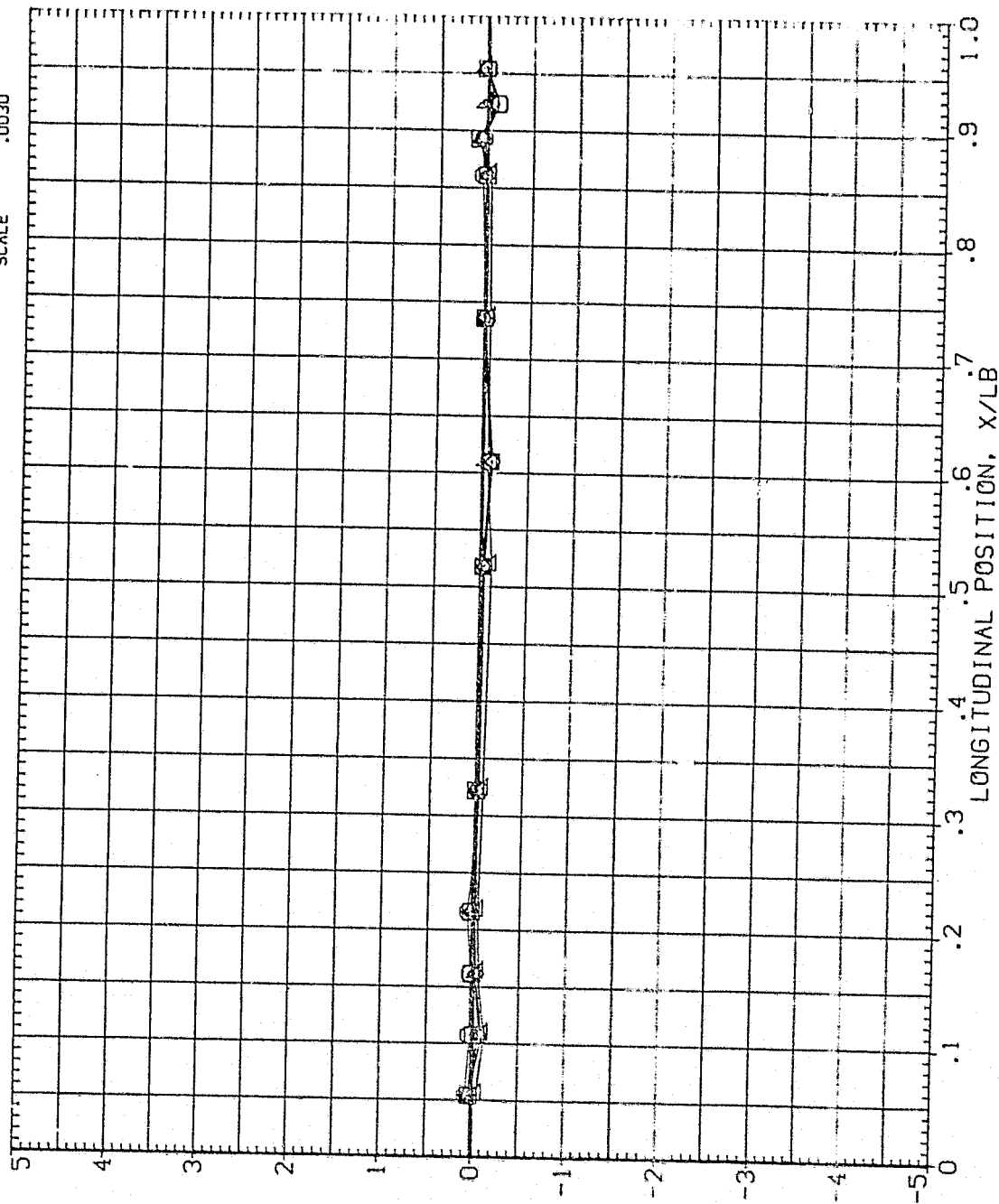


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES  
 (M)MACH = 1.96

SYMBOL  
 ○ □ ◇ △ ▽

ALPHA 12.570  
 BETA 16.660  
 MOUNT 20.740  
 24.850  
 28.950

PARAMETRIC VALUES  
 .000 OFFSET 20.000  
 1.000 PHI .000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

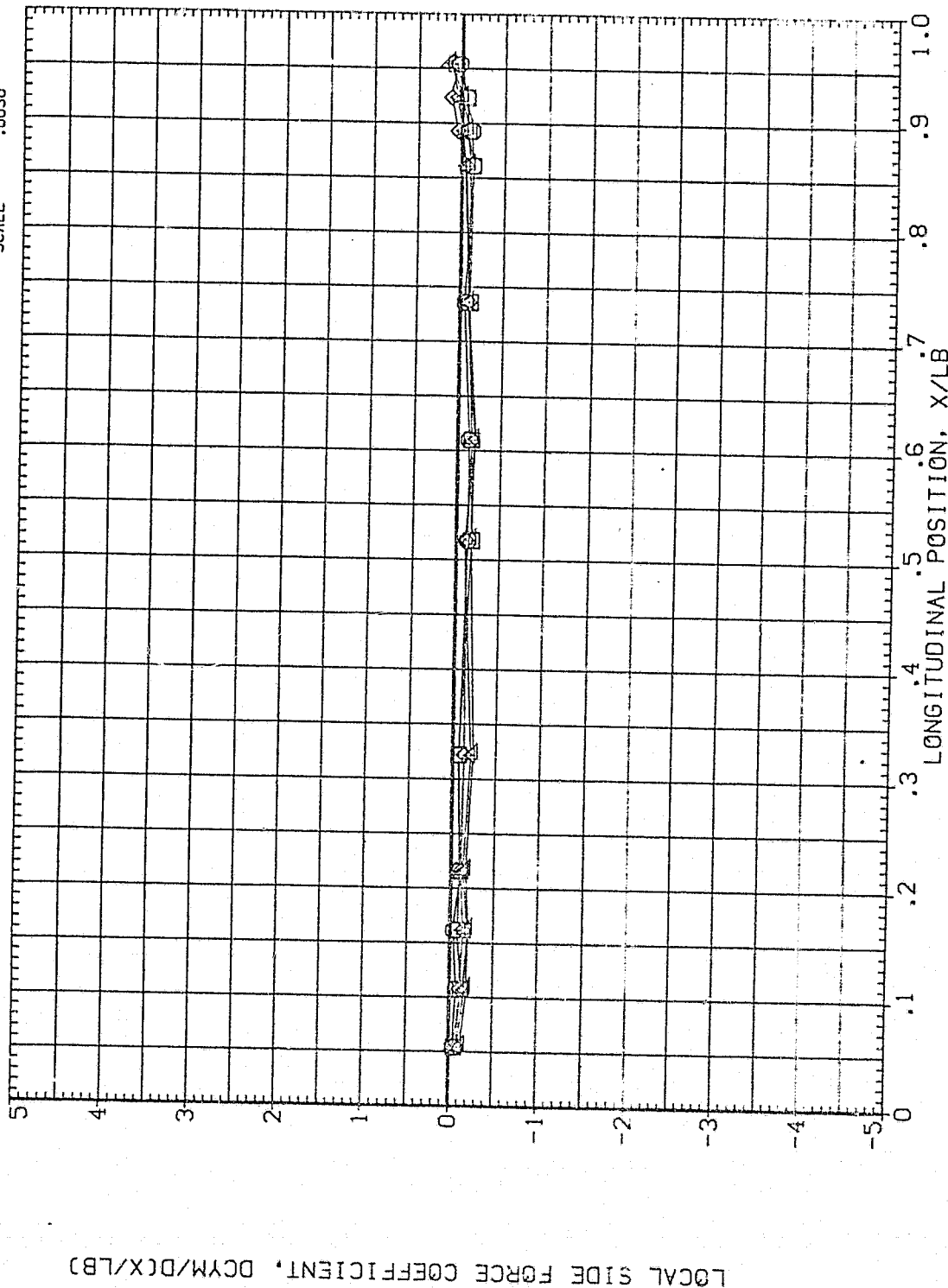


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES  
 (MACH = 1.97)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (B1AX11)

SYMBOL

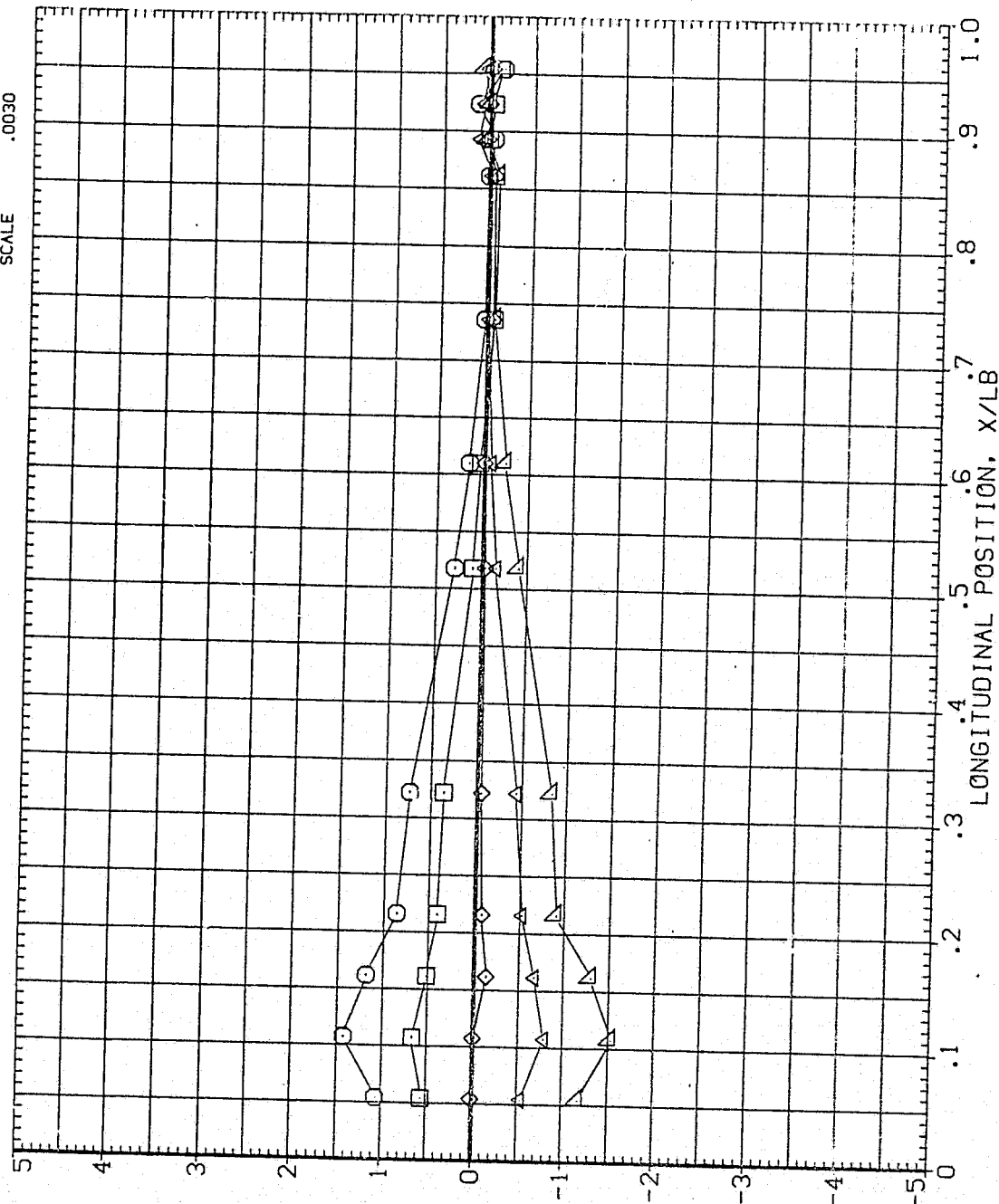
ALPHA  
-8.380  
-4.330  
-.280  
3.790  
7.840

PARAMETRIC VALUES  
.000  
1.000  
OFFSET  
PHI

.000  
90.000

REFERENCE INFORMATION  
SREF 572.5550  
LREF 324.0000  
BREF 324.0000  
XMRP 1086.4000  
YMRP .0000  
ZMRP 400.0000  
SCALE .0030

SO. FT  
INCHES  
IN. XT  
IN. YT  
IN. ZT



LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB)

LONGITUDINAL POSITION, X/LB

FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(MACH = 1.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (BIA16)

SYMBOL  
○ □ ◇ △ ▽

ALPHA  
12.550  
16.660  
20.740  
24.850  
28.930

BETA  
MOUNT

PARAMETRIC VALUES  
.000 OFFSET  
1.000 PHI  
20.000  
90.000

REFERENCE INFORMATION  
SREF 572.5550  
LREF 324.0000  
BREF 324.0000  
XMRP 1086.4000  
YMRP .0000  
ZMRP 400.0000  
SCALE .0030

SO. FT  
INCHES  
IN. XT  
IN. YT  
IN. ZT

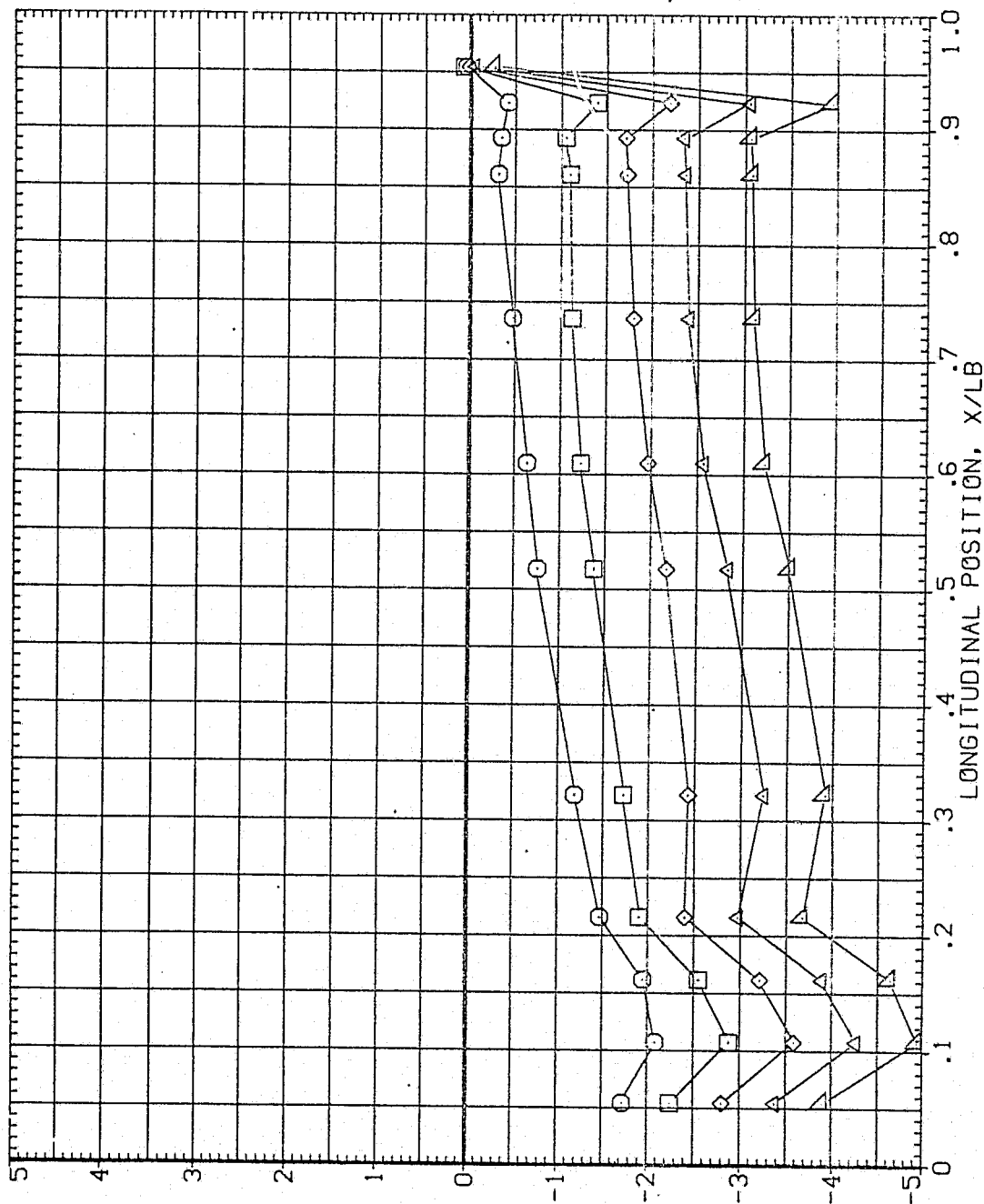


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(MACH = 1.96)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (B1AX31)

SYMBOL

PARAMETRIC VALUES

ALPHA BETA  
-8.380  
-4.330 MOUNT  
-1.280  
3.770  
7.820

.000 OFFSET .000  
1.000 PHI 180.000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XHRP 1086.4000 IN. XT  
YHRP .0000 IN. YT  
ZHRP 400.0000 IN. ZT  
SCALE .0030

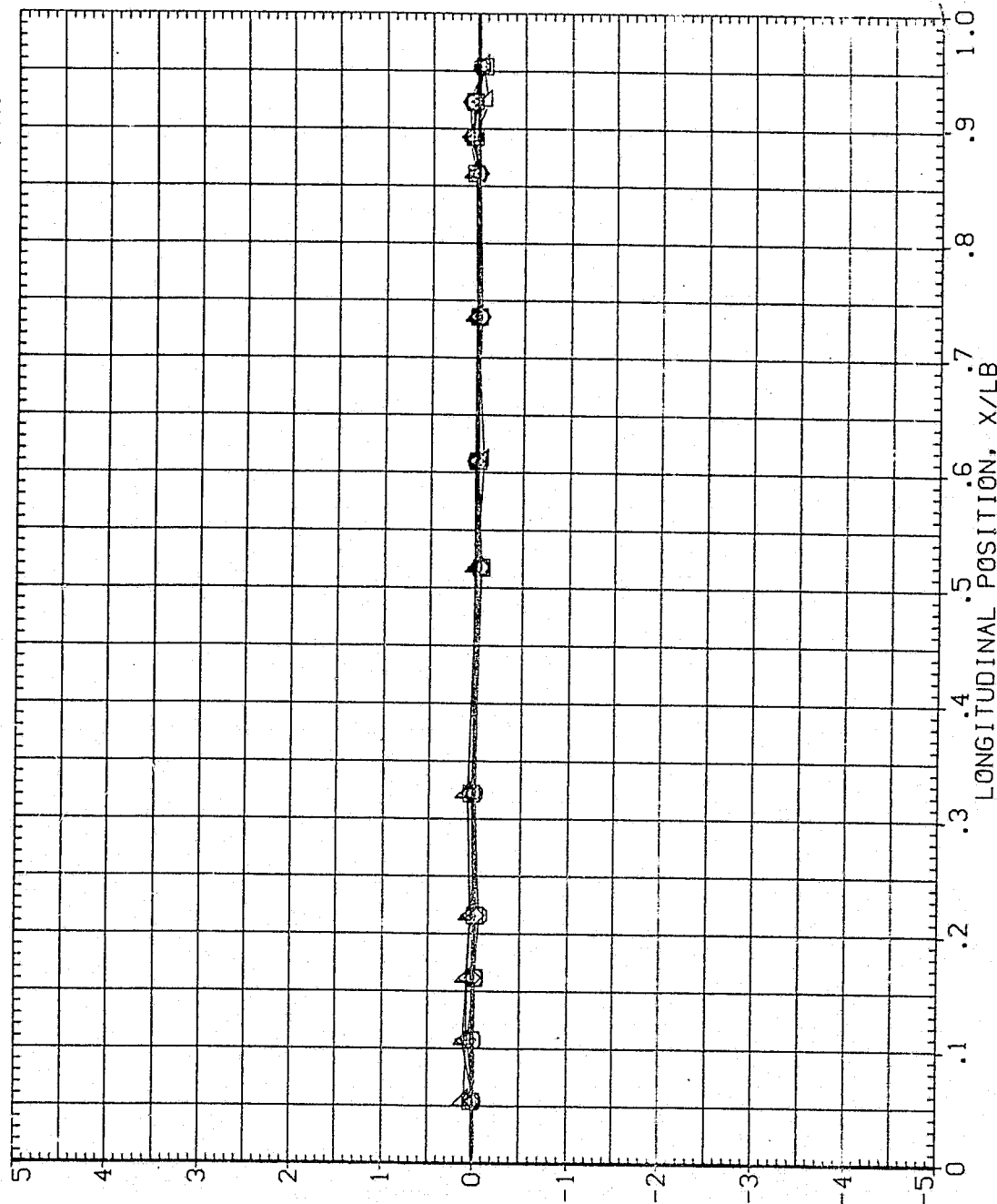


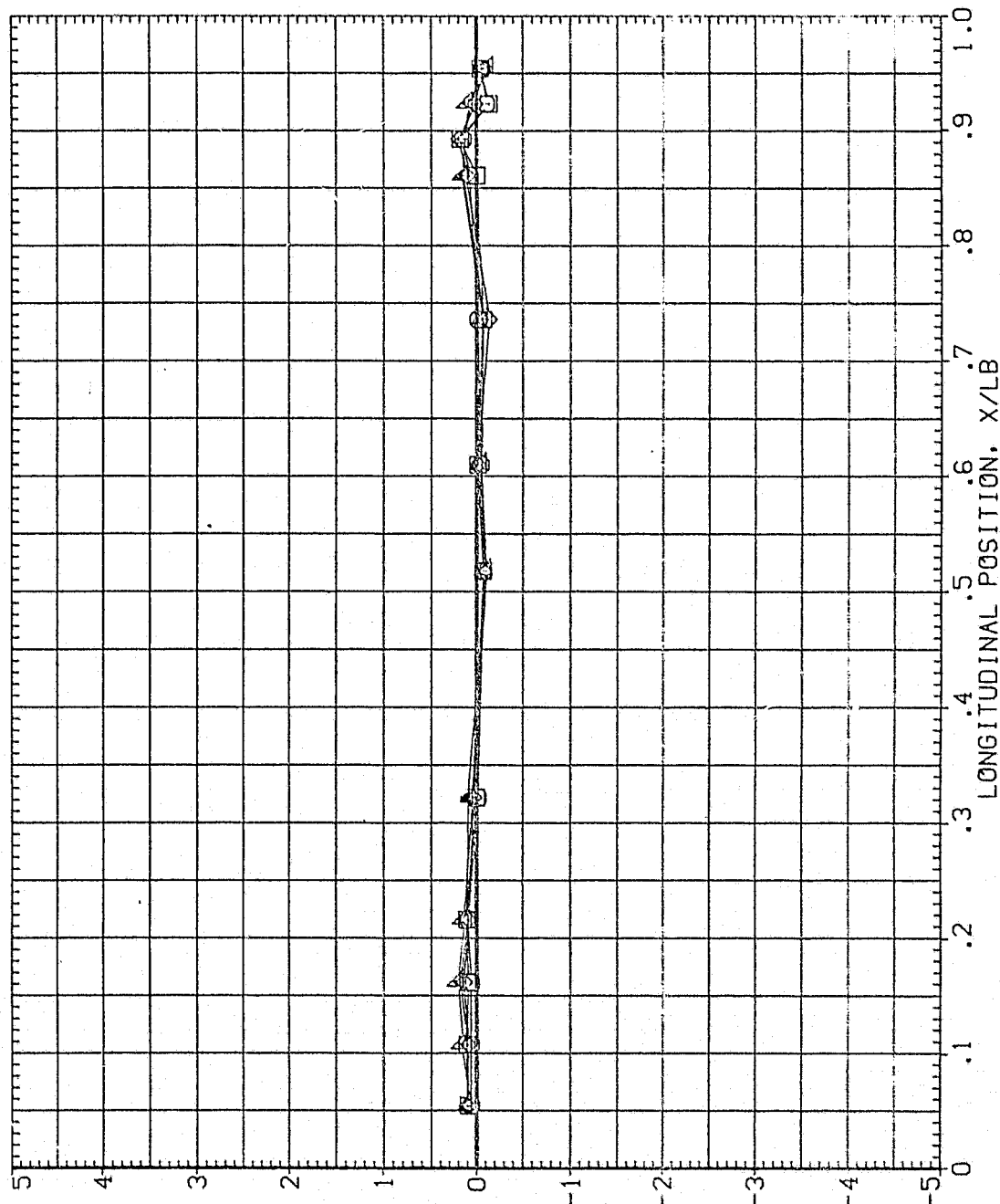
FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CA/MACH = 1.96

SYMBOL ALPHA BETA MOUNT  
 □ 12.570 16.660 20.740 24.870 28.930  
 ◇ 12.570 16.660 20.740 24.870 28.930  
 △ 12.570 16.660 20.740 24.870 28.930

PARAMETRIC VALUES  
 .000 OFFSET 20.000  
 1.000 PHI 180.000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XHRP 1086.4000 IN. X1  
 YHRP .0000 IN. Y1  
 ZHRP 400.0000 IN. Z1  
 SCALE .0030



LOCAL SIDE FORCE COEFFICIENT, DCYM/DD(X/LB)

FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CAMACH = 1.97



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (B1AX51)

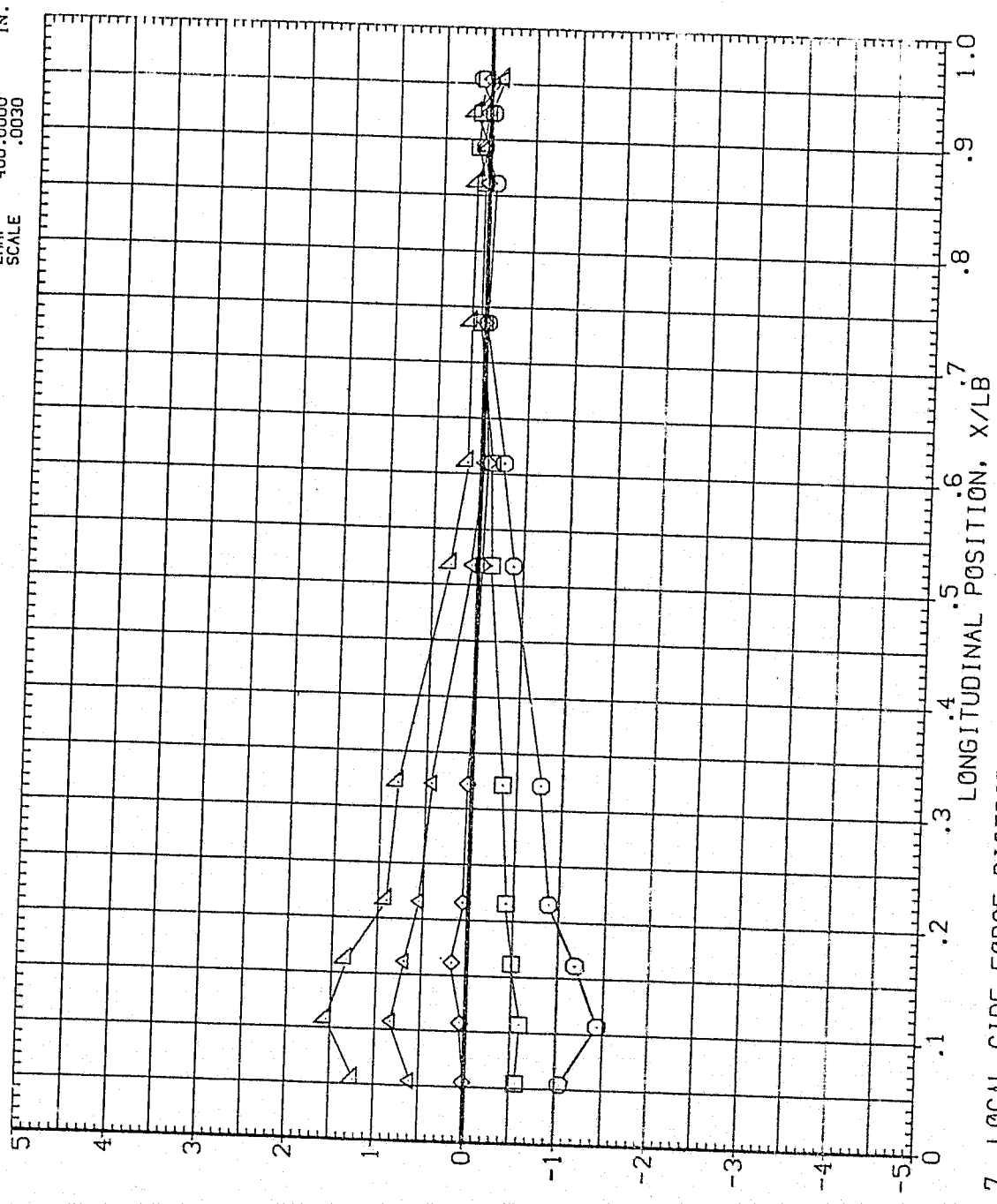
SYMBOL  
 ○ □ ◇ △ ▽

ALPHA  
 -8.380  
 -4.350  
 -1.280  
 3.770  
 7.160

BETA  
 MOUNT  
 .000  
 1.000  
 .000  
 .000  
 .000

PARAMETRIC VALUES  
 OFFSET  
 PHI  
 .000  
 .000  
 .000  
 .000  
 .000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 YHRP 1086.4000 IN. XT  
 ZHRP .0000 IN. YT  
 SCALE 400.0000 IN. ZT  
 .0030



LOCAL SIDE FORCE COEFFICIENT, DCYM/DC(X/LB)

FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES  
 (MACH = 1.95)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	ALPHA	BETA	PHI	SREF	SQ. FT	INCHES
○	12.570	.000	20.000	LREF	324.0000	IN. XT
□	16.640	1.000	270.000	BREF	324.0000	IN. XT
◇	20.740			XMRP	1086.4000	IN. XT
△	24.850			ZMRP	400.0000	IN. XT
	28.930			SCALE	.0030	

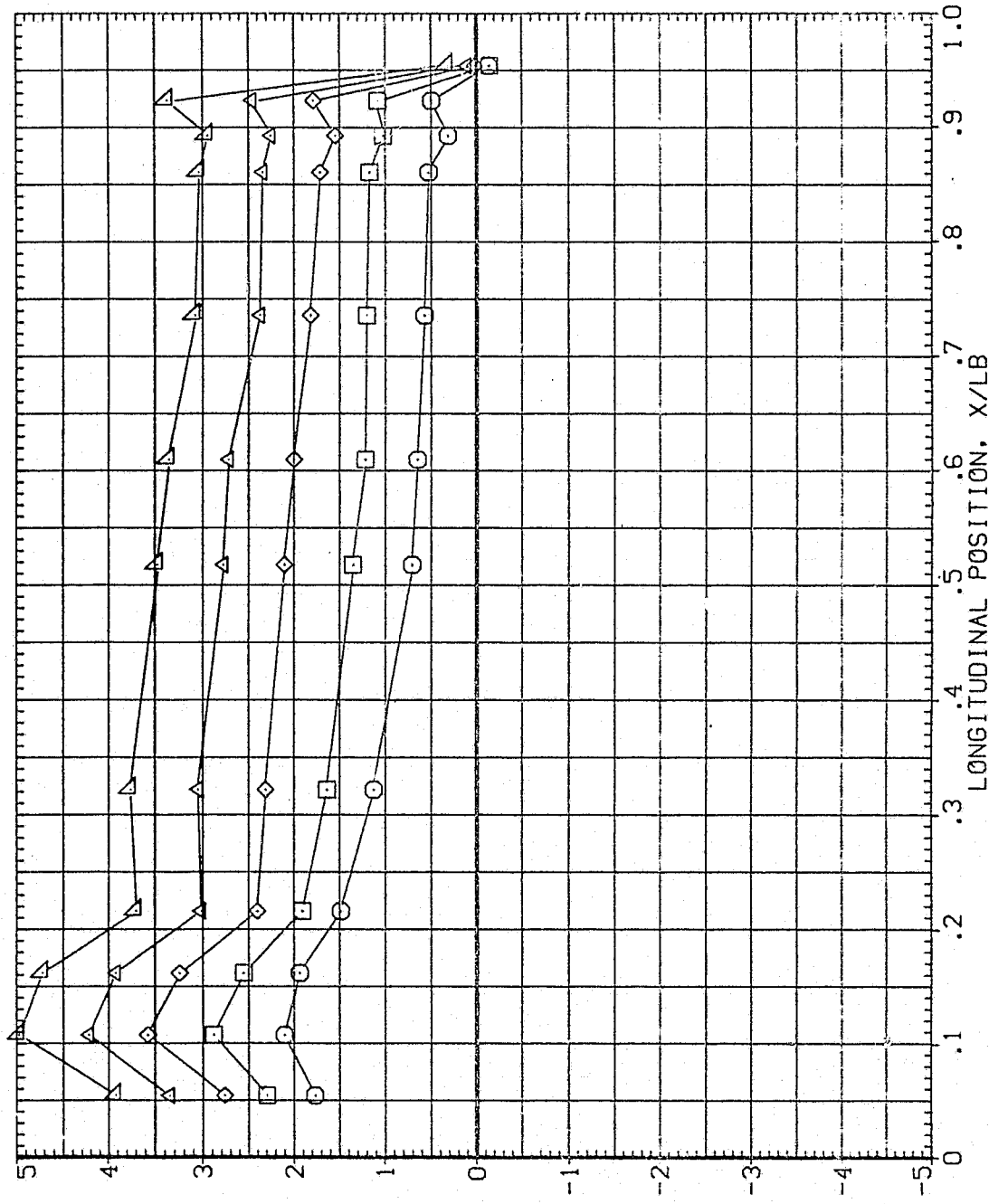


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A001)

SYMBOL ALPHA BETA HOUNT  
 ○ -8.360  
 □ -4.330  
 ◇ -.280  
 △ 3.770  
 ▽ 7.000

PARAMETRIC VALUES  
 .000 .000  
 1.000 .000  
 PH1

LOCAL SIDE FORCE COEFFICIENT,  $C_{YM}/D(X/LB)$

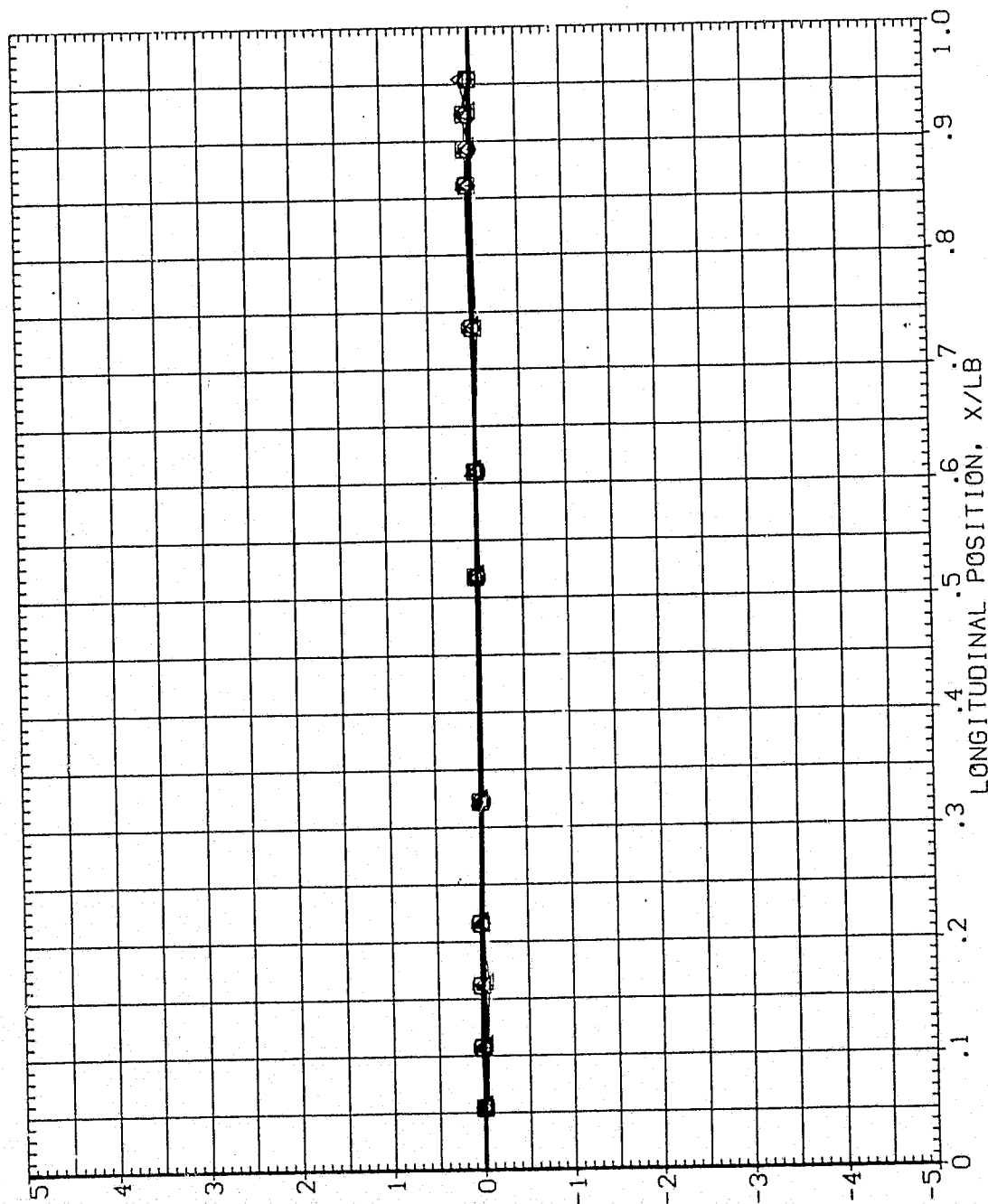


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION			
	ALPHA	BETA	OFFSET	SREF	SO. FT	INCHES	IN. XT
○	12.520	MOUNT	.000	LREF	572.5550	324.0000	IN. Y1
□	16.560		1.000	BREF	324.0000	1086.4000	IN. Y2
◇	20.610			YMRP	400.0000		IN. Z1
△	24.660			ZMRP			IN. Z2
▽	28.700			SCALE	.0030		

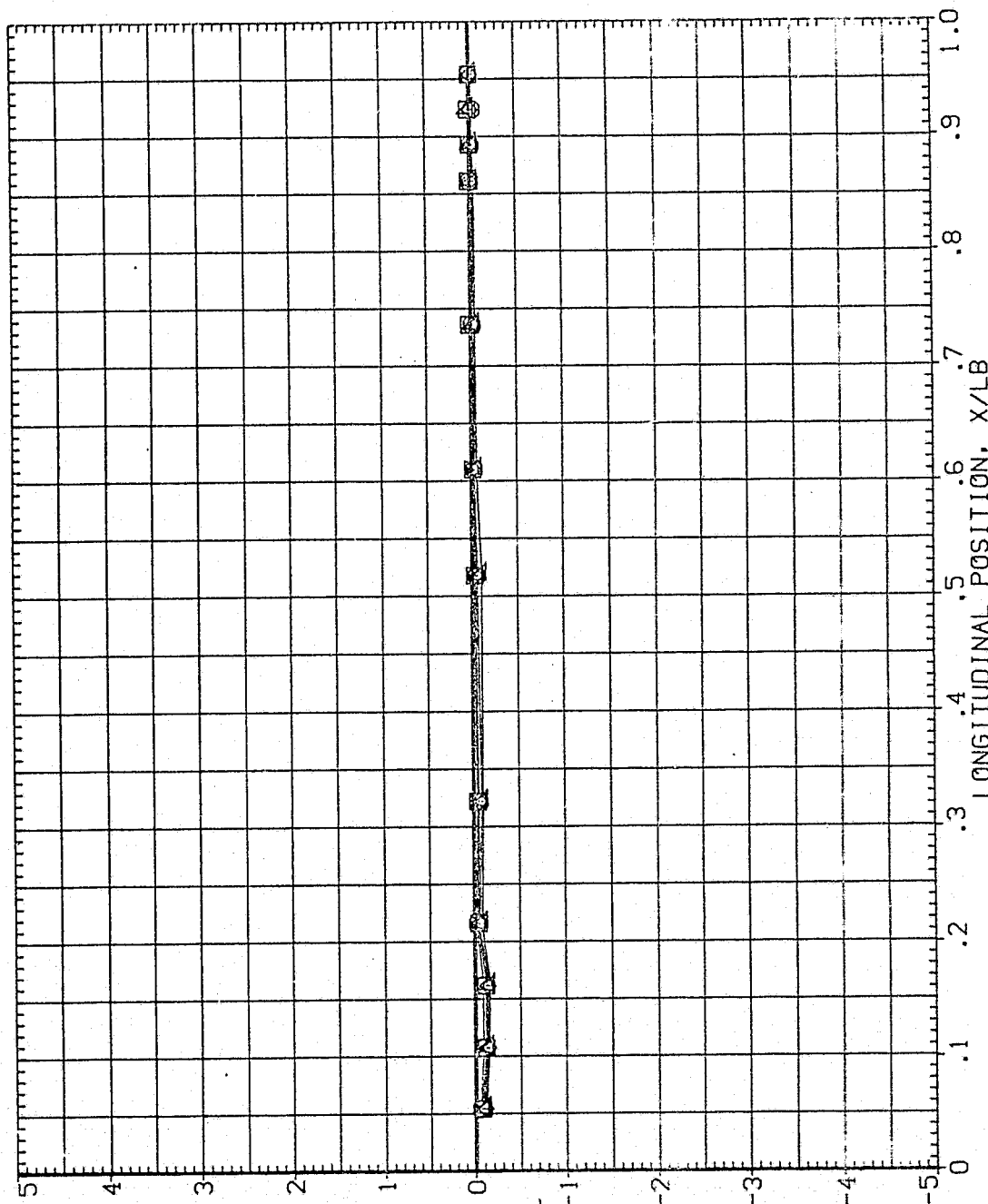


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CA/MACH = 3.48

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A081)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.380	0.000	OFFSET	SREF 572.5550
□	-4.330	1.000	PHI	LREF 324.0000
◇	-280			BREF 324.0000
△	3.770			XMRP 1086.4020
▽	7.800			YMRP .0000
				ZMRP 400.0000
				SCALE .0030

LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB)

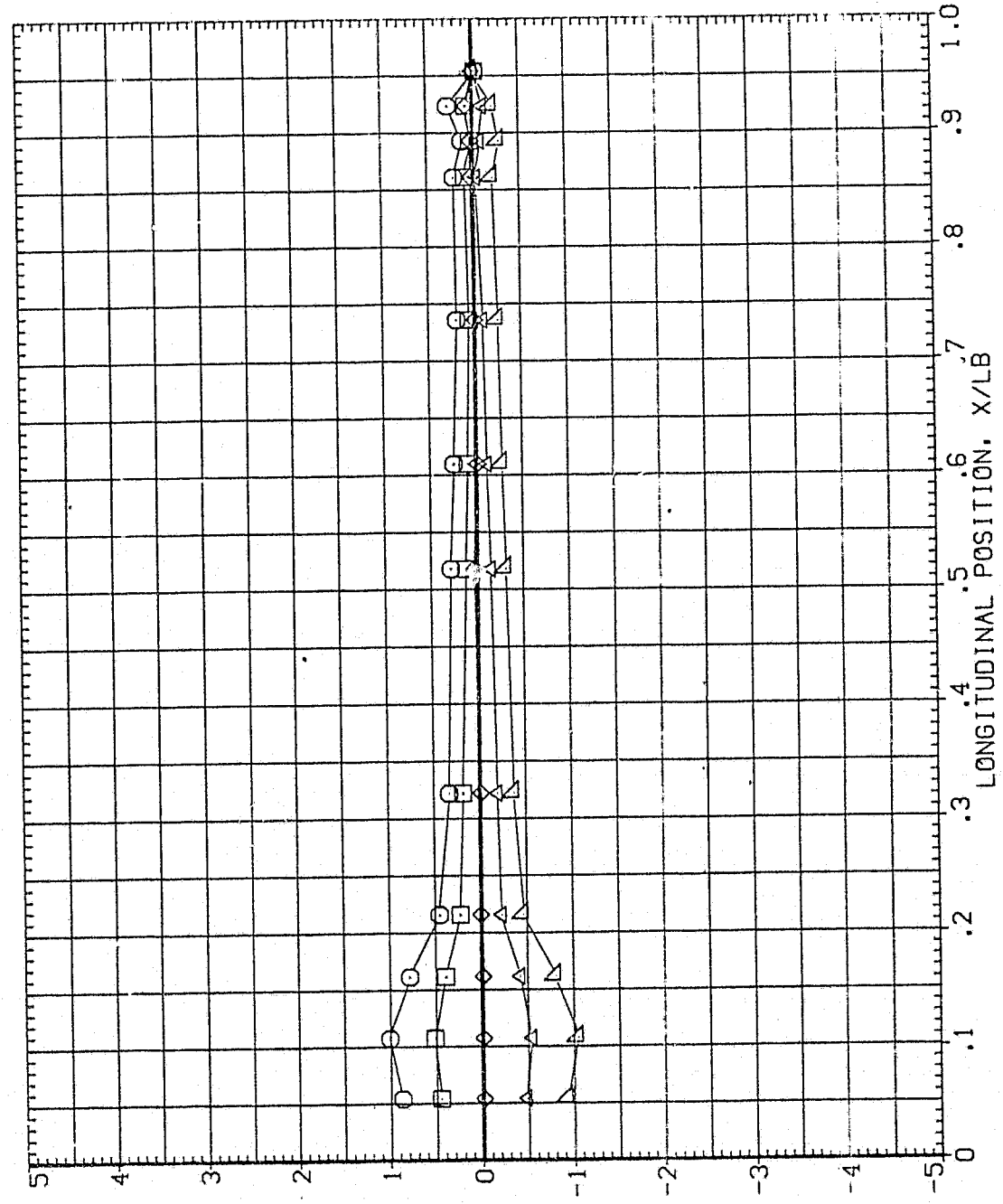


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A086)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	12.520	HOUNT	.000	SREF 572.5550
□	16.560	PHI	1.000	LREF 324.0000
◇	20.610			BREF 324.0000
△	24.660			XMRP 1086.4000
	28.700			YMRP .0000
				ZMRP 400.0000
				SCALE .0030

LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB

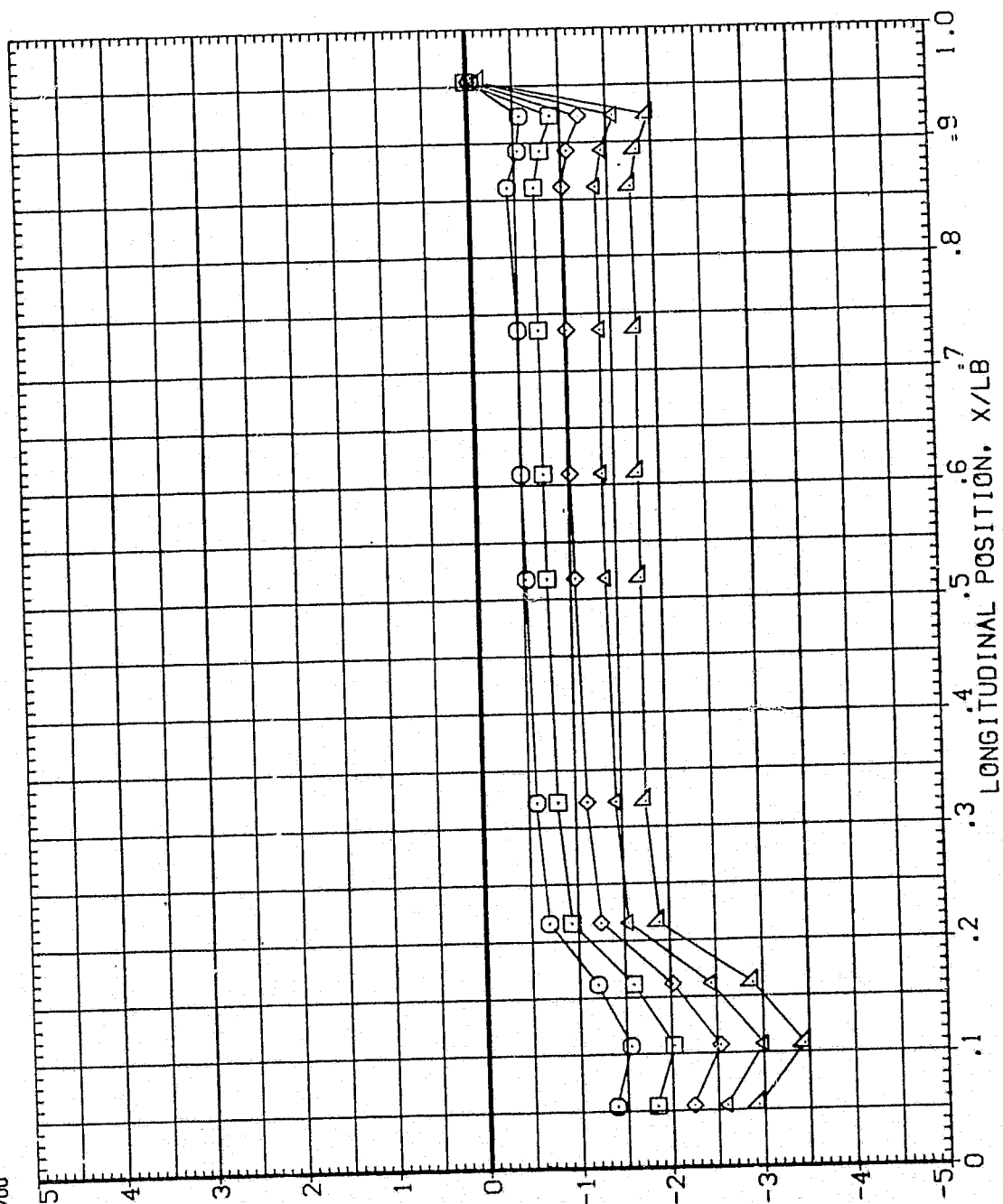


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A) MACH = 3.48

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A011)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	ALPHA	BETA	OFFSET	SREF	SD, FT	INCHES
◇	-8.360	.000	.000	LREF	572.5550	INCHES
□	-4.330	1.000	PHI	BREF	324.0000	INCHES
◇	-2.280			XMRP	1086.4000	IN. XT
◇	3.770			YMRP	.0000	IN. YT
△	7.800			ZMRP	400.0000	IN. ZT
				SCALE	.0030	

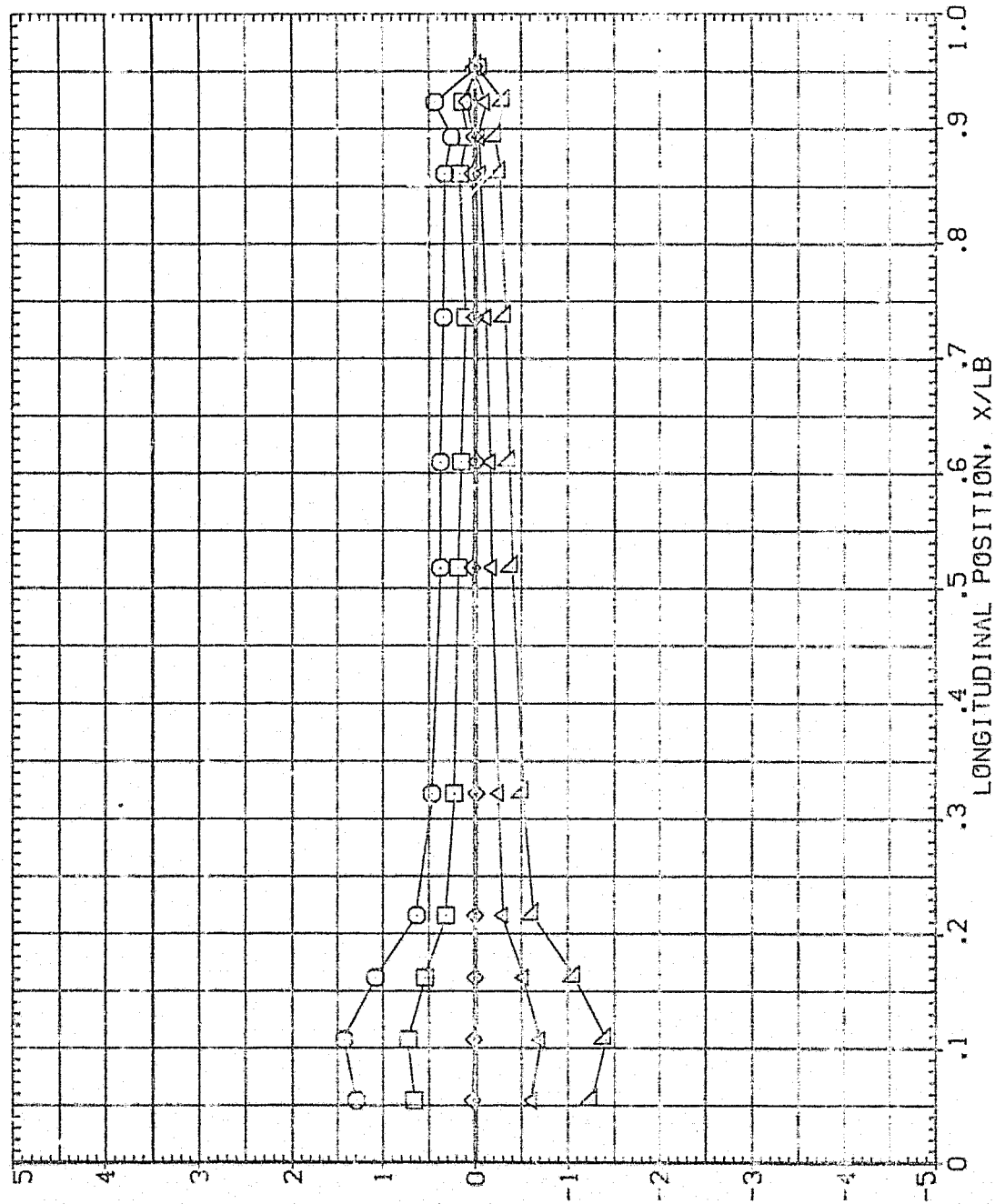


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	ALPHA	BETA	PHI	SREF	SG	FT
○	12.520	0.000	0.000	572.5550	INCHES	INCHES
□	16.560	1.000	0.000	324.0000	INCHES	INCHES
◇	20.610	0.000	0.000	1086.4000	IN. XT	IN. XT
△	24.660	0.000	0.000	400.0000	IN. YI	IN. YI
▽	28.700	0.000	0.000	400.0000	IN. ZI	IN. ZI
				SCALE		

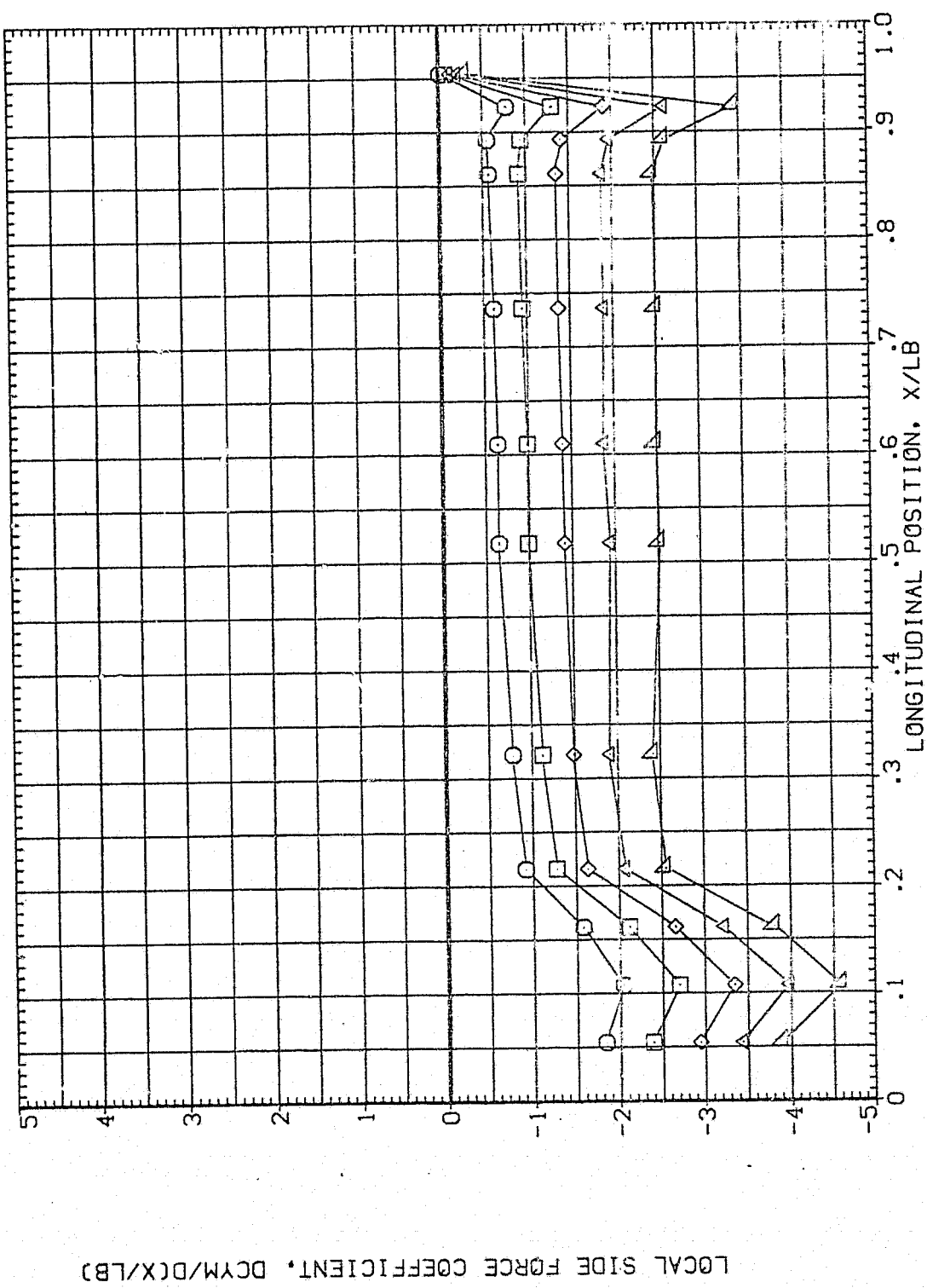


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01AC21)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.360	.000	OFFSET	SREF 572.5550
□	-4.330	1.000	PHI	LREF 324.0000
◇	-2.280	.000	PHI	BREF 324.0000
△	3.720	.000	PHI	XMRP 1086.4000
▽	7.710	.000	PHI	YMRP .0000
				ZMRP 400.0000
				SCALE .0030

LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB

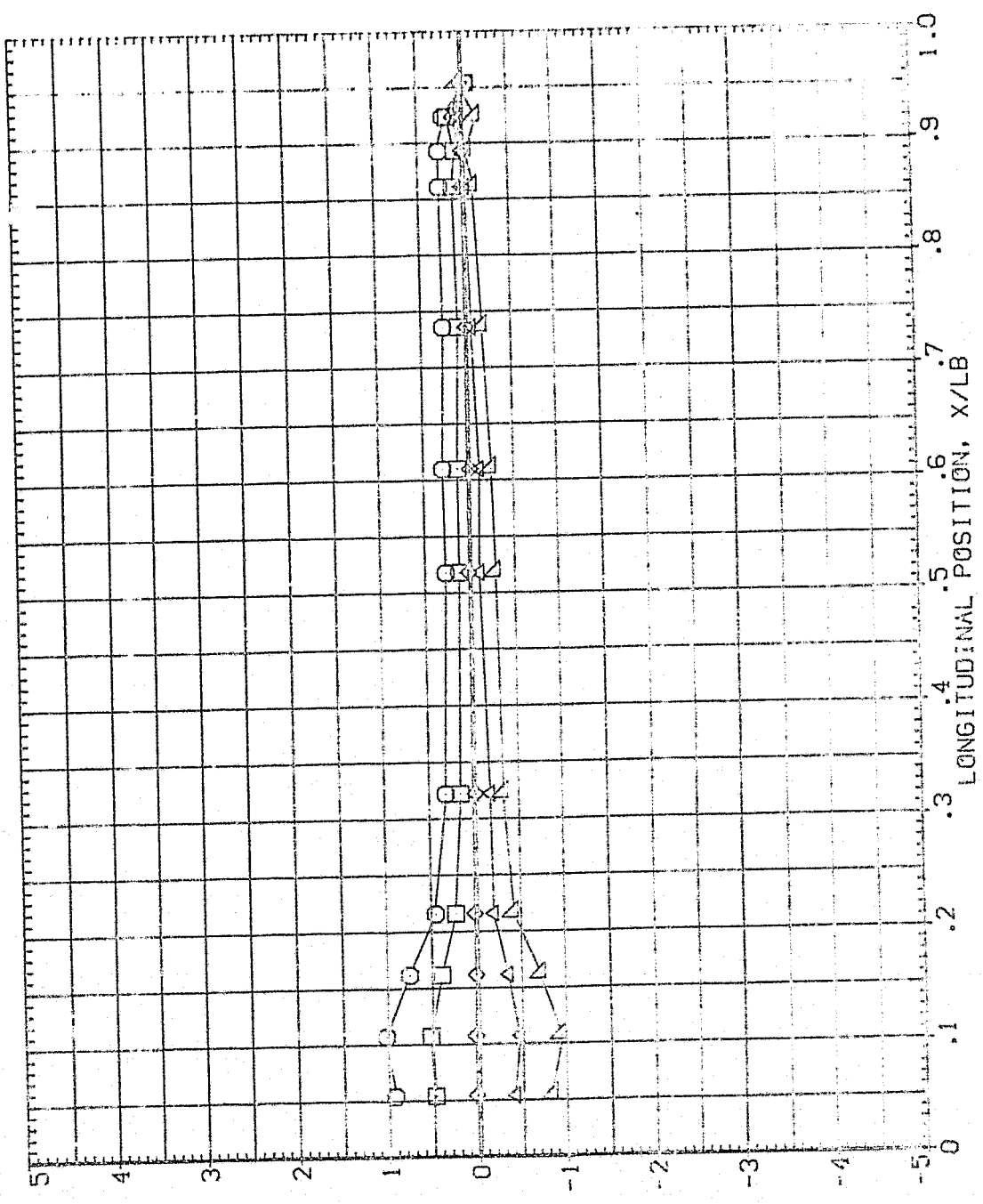


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CAJ MACH = 3.48

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 YMRP 1086.4000 IN. XT  
 ZMRP 400.0000 IN. YT  
 SCALE .0030

PARAMETRIC VALUES  
 ALPHA 12.520 BETA .000 OFFSET 20.000  
 16.540 MOUNT 1.000 P-HI 135.000  
 20.610  
 24.660  
 28.700

SYMBOL  
 ○ □ ◇ △ ▽

LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB

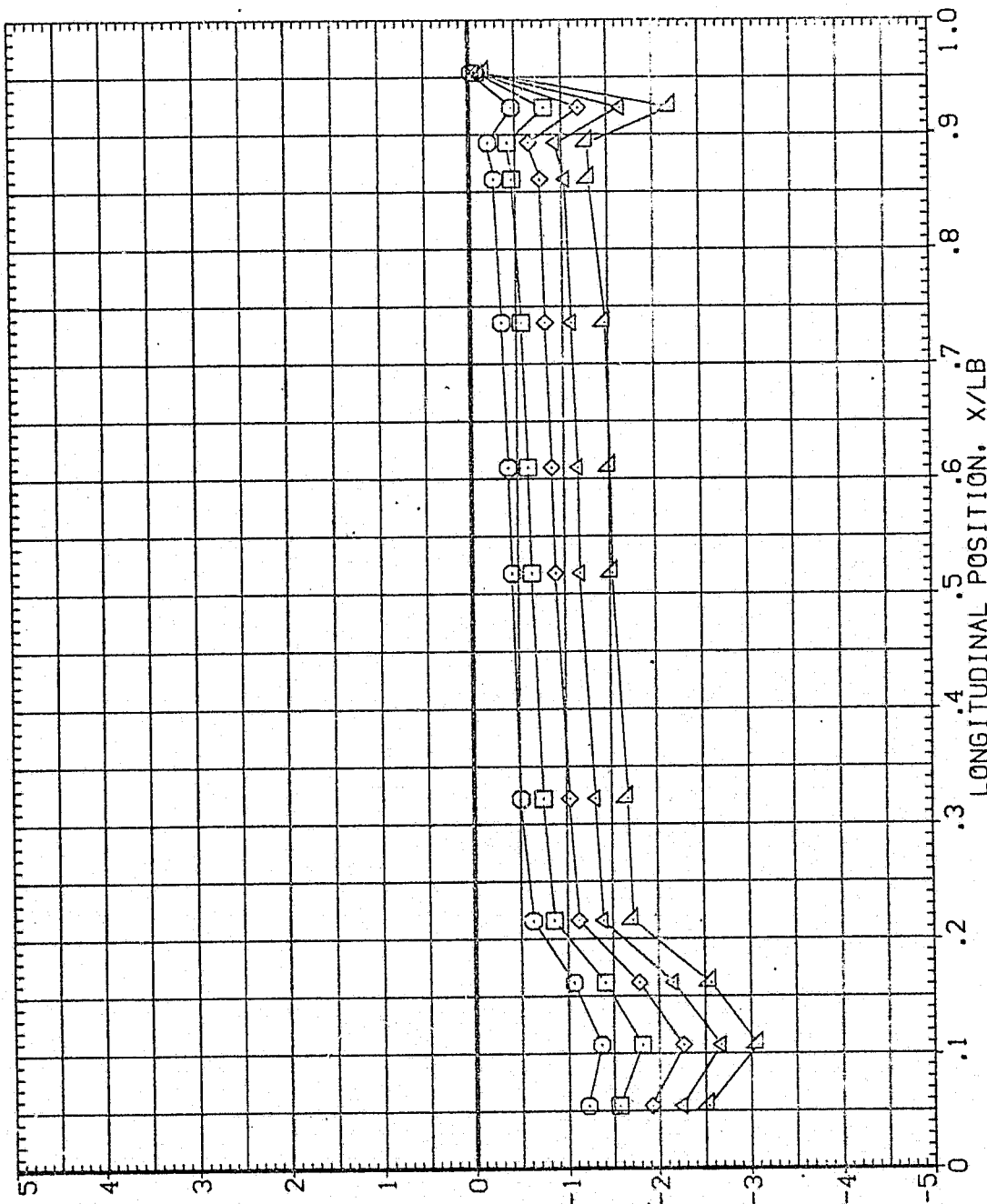


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A031)

SYMBOL	PARAMETRIC VALUES		REFERENCE INFORMATION	
	ALPHA	BETA	SREF	SQ. FT
○	-8.360	BETA	LREF	INCHES
□	-4.330	MOUNT	BREF	INCHES
◇	-280		XMRP	IN. XT
▽	3.770		YMRP	IN. YT
△	7.400		ZMRP	IN. ZT
			SCALE	.0030

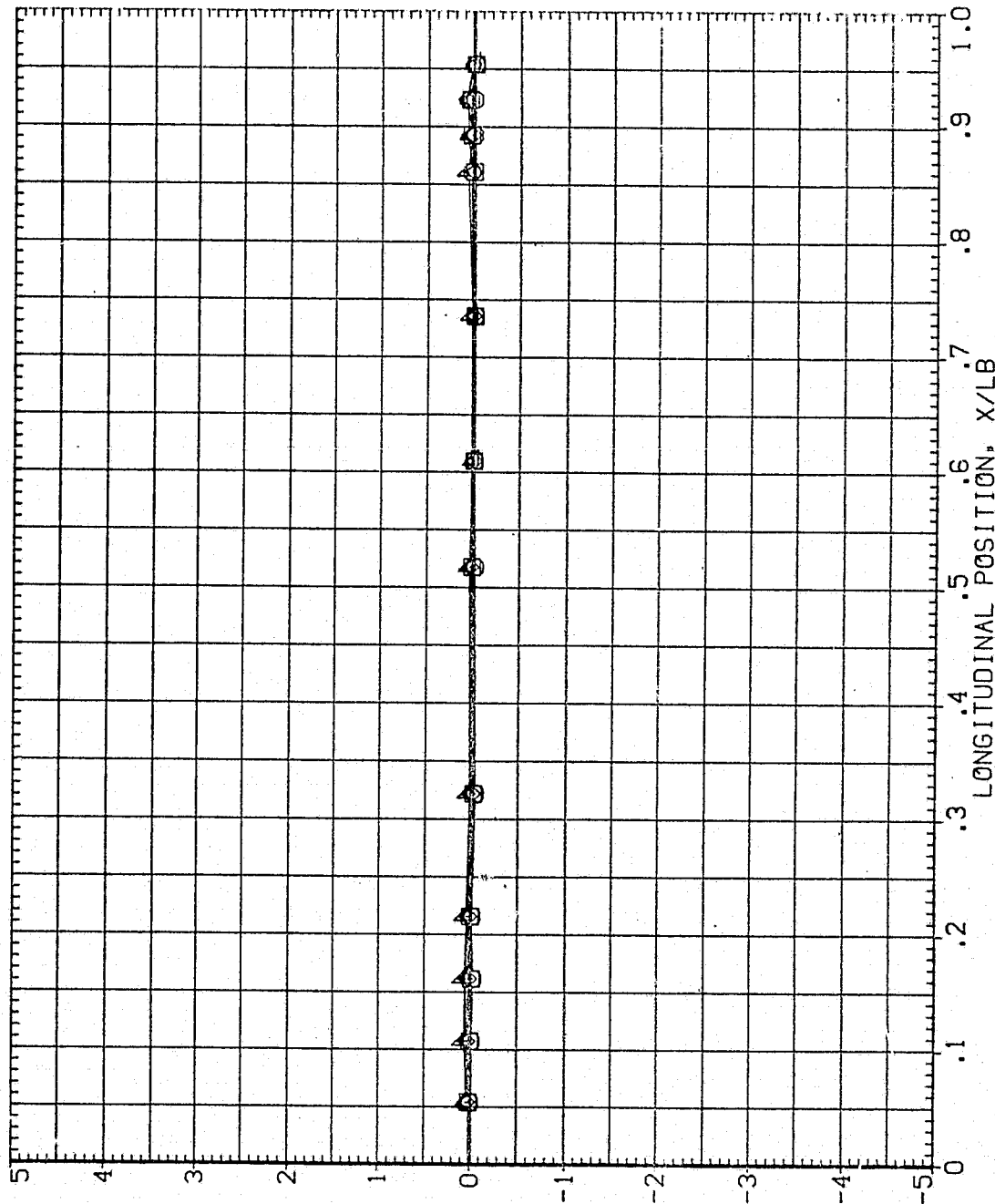


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

SYMBOL  
 ○ □ ◇ △ ▽

ALPHA  
 12.540  
 16.560  
 20.610  
 24.560  
 28.700

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 OFFSET  
 1.000 PHI

20.000  
 180.000

REFERENCE INFORMATION  
 SREF 572.5550 SO. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

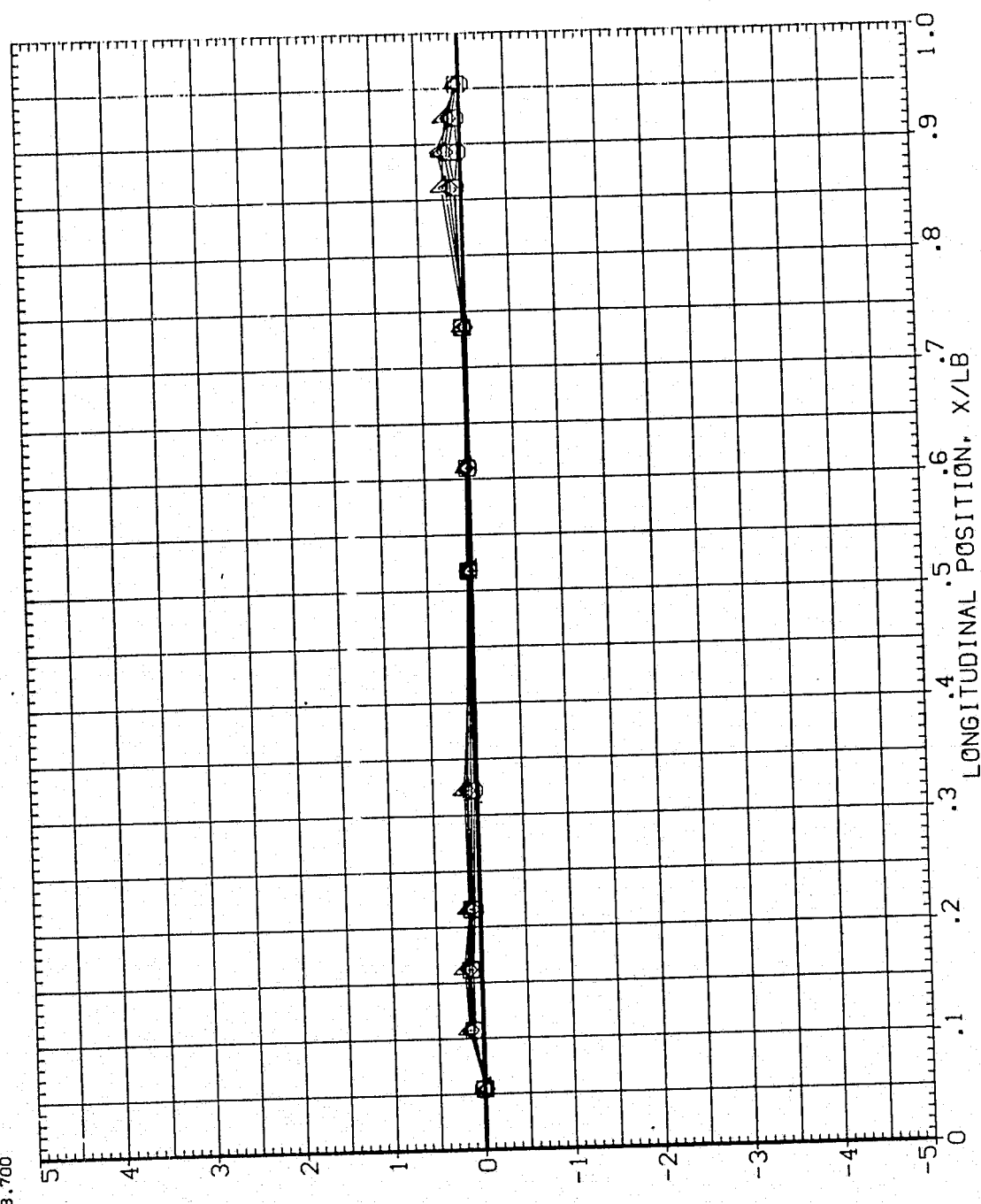


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(MACH = 3.48)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A041)

SYMBOL  
 ▴  
 ◁  
 ◇  
 □  
 ○

ALPHA  
 0.300  
 -4.330  
 -1.280  
 3.770  
 7.800

PARAMETRIC VALUES  
 .CGG 1.000  
 .OFFSET 1.000  
 PHI 225.000

.CGG 225.000

REFERENCE INFORMATION  
 SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP .0000  
 ZMRP 400.0000  
 SCALE .0030

LOCAL SIDE FORCE COEFFICIENT, DCYM/DC(X/LB)

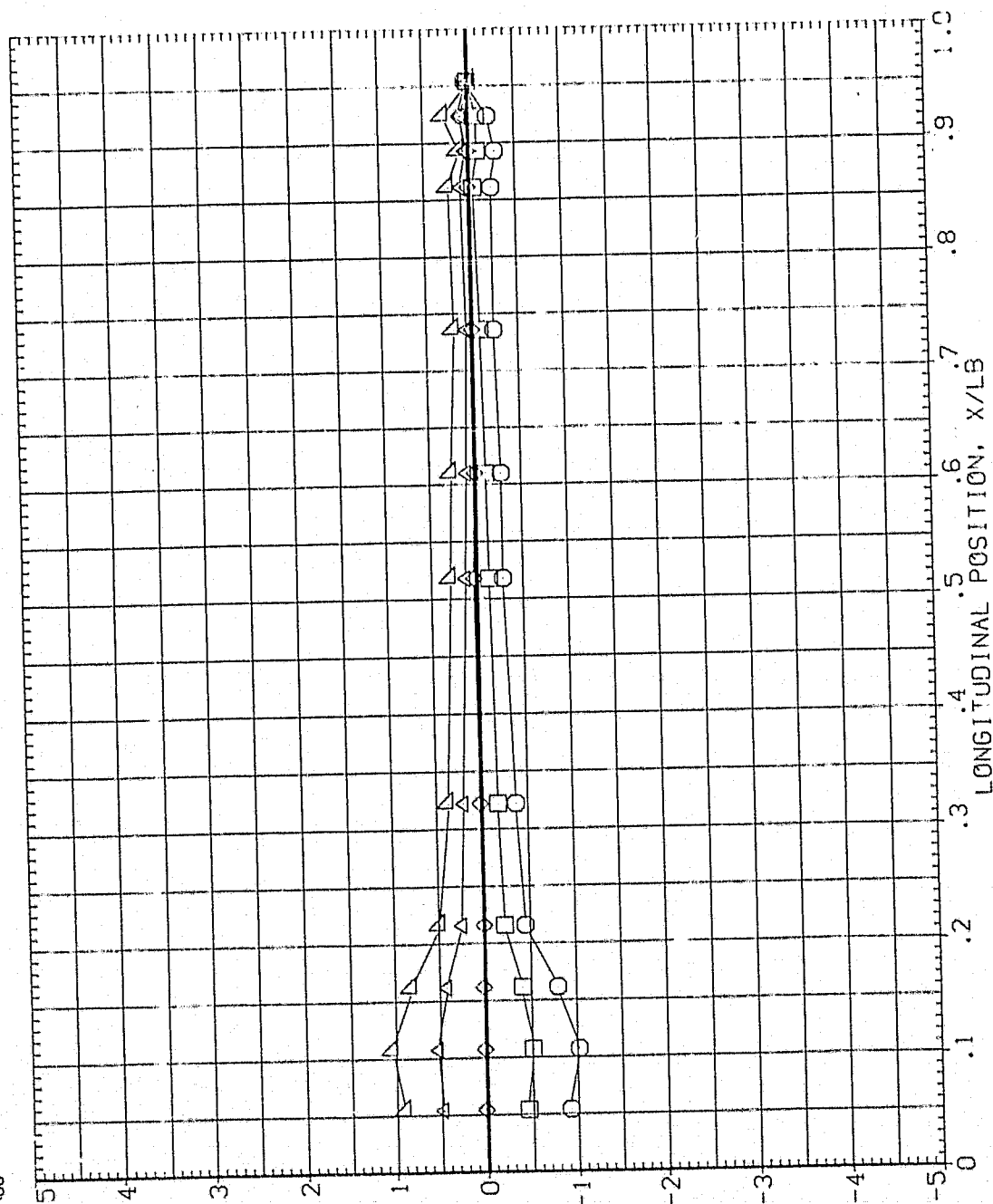


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

SYMBOL  
 ○ □ ◇ △ ▽

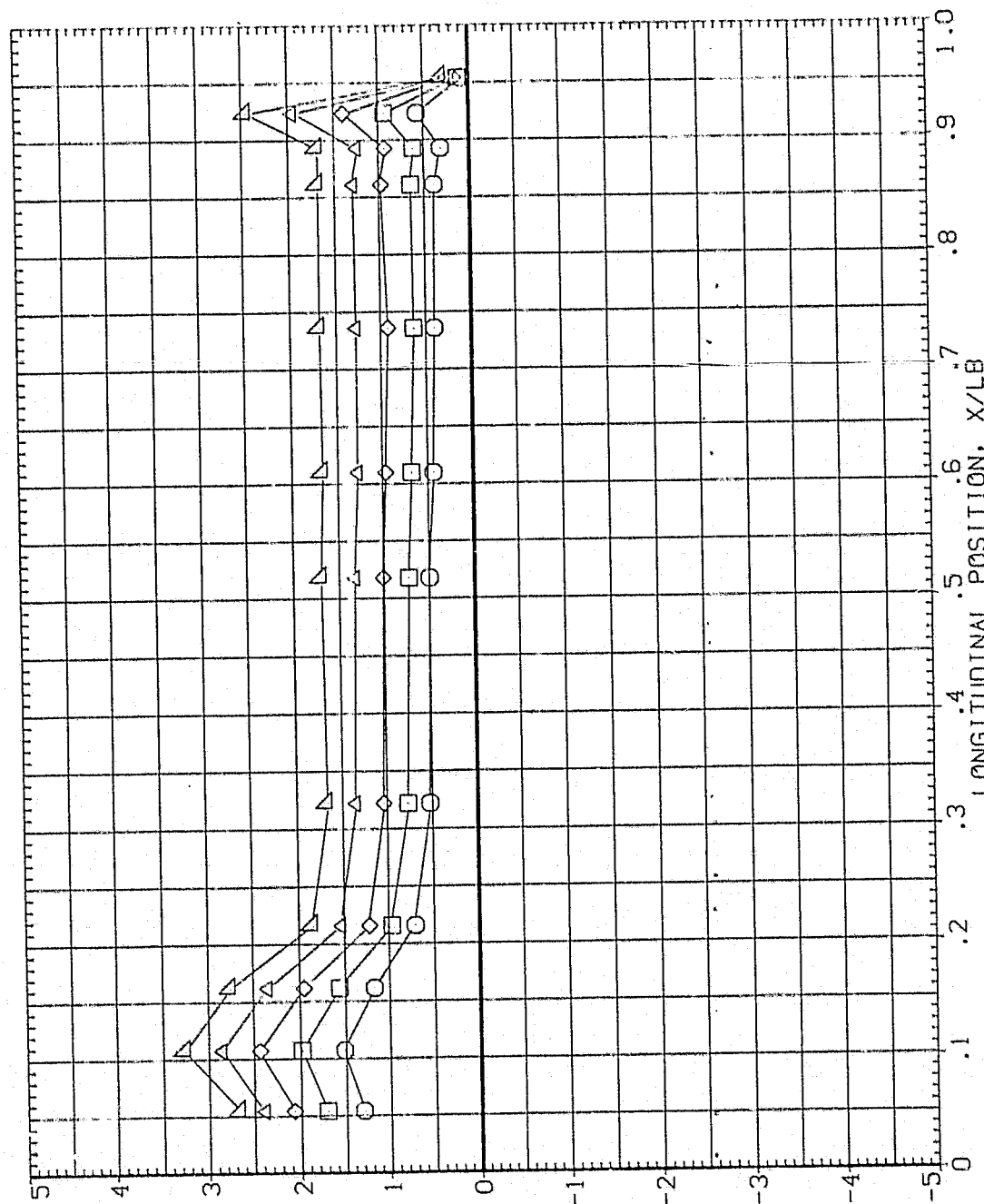
ALPHA  
 12.520  
 16.560  
 20.610  
 24.660  
 28.720

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 OFFSET  
 1.000 PHI

20.000  
 225.000

REFERENCE INFORMATION  
 SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP .0000  
 ZMRP 400.0000  
 SCALE .0030



LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB

FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

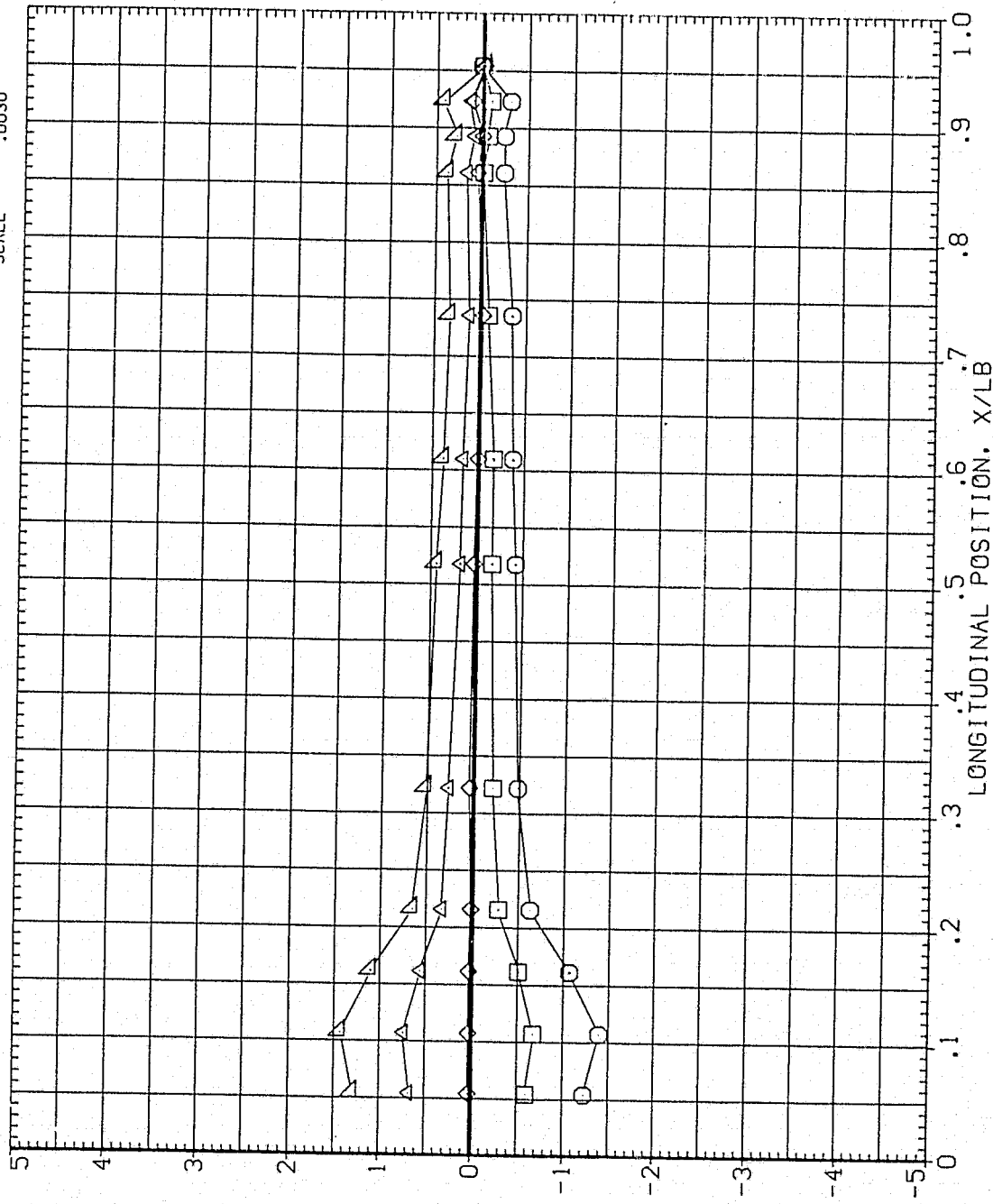
# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01AD51)

SYMBOL

ALPHA  
-8.360  
-4.330  
-.280  
3.790  
7.900

PARAMETRIC VALUES  
BETA  
MOUNT  
1.000  
1.000  
PHI  
OFFSET  
.000  
270.000

REFERENCE INFORMATION  
SREF 572.5550  
LREF 324.0000  
BREF 324.0000  
XMRP 1086.4000  
YMRP .0000  
ZMRP 400.0000  
SCALE .0030



LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB

FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES		REFERENCE INFORMATION	
○	12.520	MOUNT	.000	OFFSET	SREF	572.5550
□	16.540		1.000	PHI	LREF	324.0000
◇	20.610				BREF	324.0000
△	24.680				XMRP	1086.4333
▽	28.700				YMRP	.0000
					ZMRP	400.0000
					SCALE	.0030

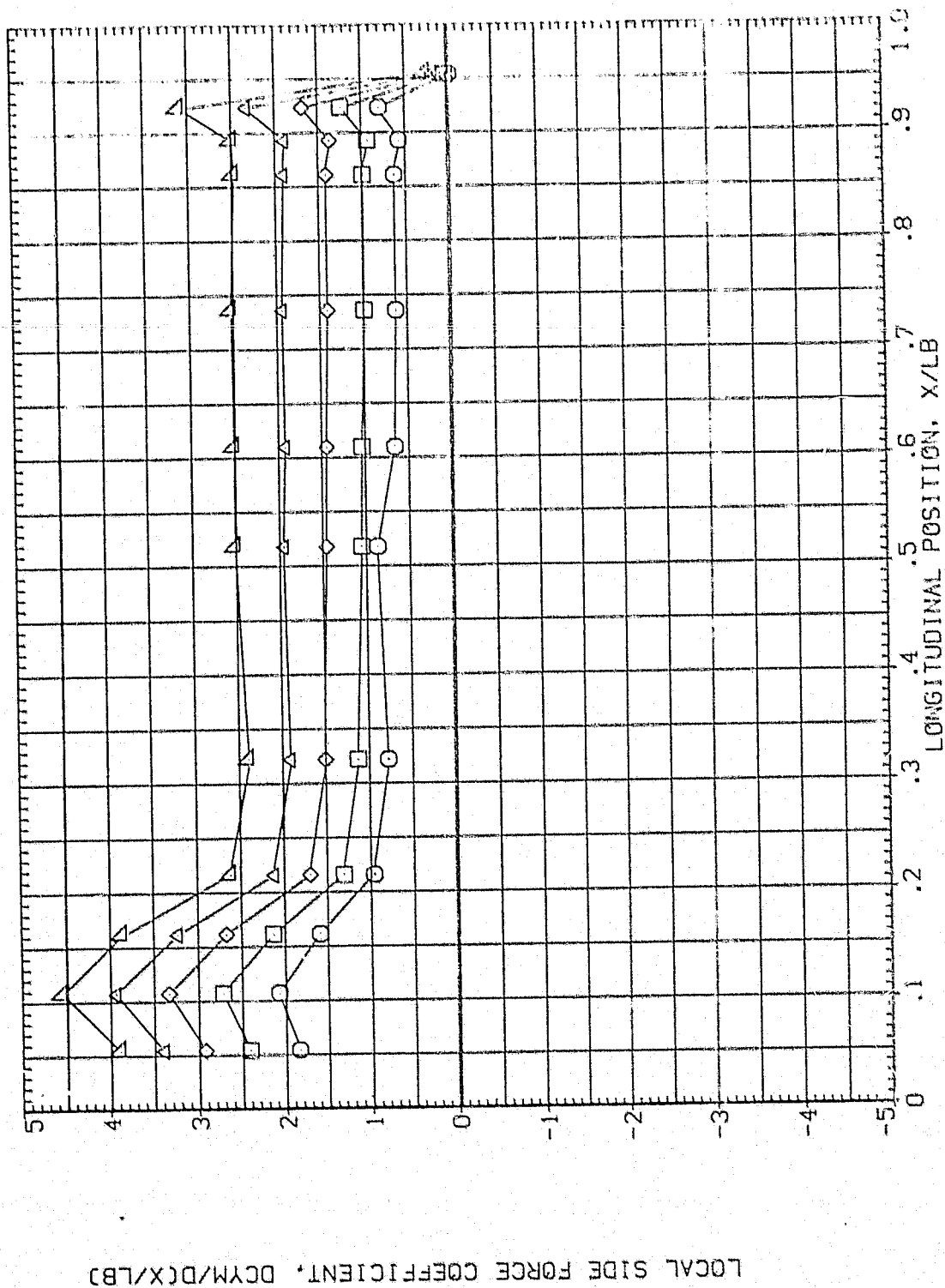


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A091)

SYMBOL  
 ○  
 □  
 ◇  
 △

ALPHA  
 -8.360  
 -4.330  
 -.280  
 3.770  
 7.800

PARAMETRIC VALUES  
 BETA  
 .000  
 1.000  
 .000  
 PHI  
 .000  
 315.000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XHRP 1086.4000 IN. XT  
 YHRP .0000 IN. YT  
 ZHRP 400.0000 IN. ZT  
 SCALE .0030

LOCAL SIDE FORCE COEFFICIENT,  $DC_{YM}/DC_{X/LB}$

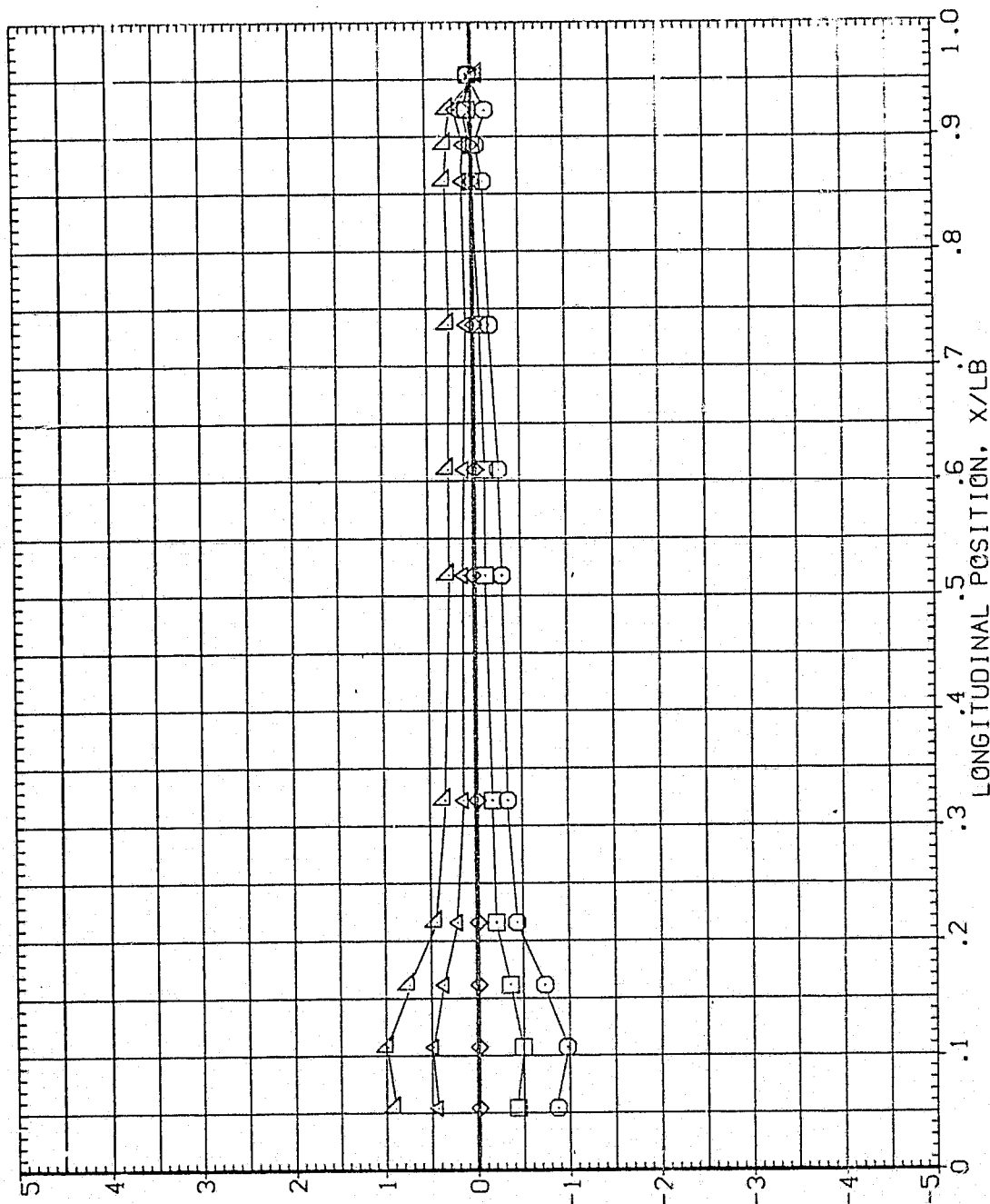


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A096)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	PHI	OFFSET	20.000	315.000
○	12.500	16.560	.000	1.000			
□	20.610	24.660					
◇	28.700						
△							

REFERENCE INFORMATION	SO. FT	INCHES
SREF	572.5550	INCHES
LREF	324.0000	INCHES
BREF	324.0000	INCHES
XHRP	1086.4000	IN. XT
YHRP	.0000	IN. YT
ZHRP	400.0000	IN. ZT
SCALE	.0030	

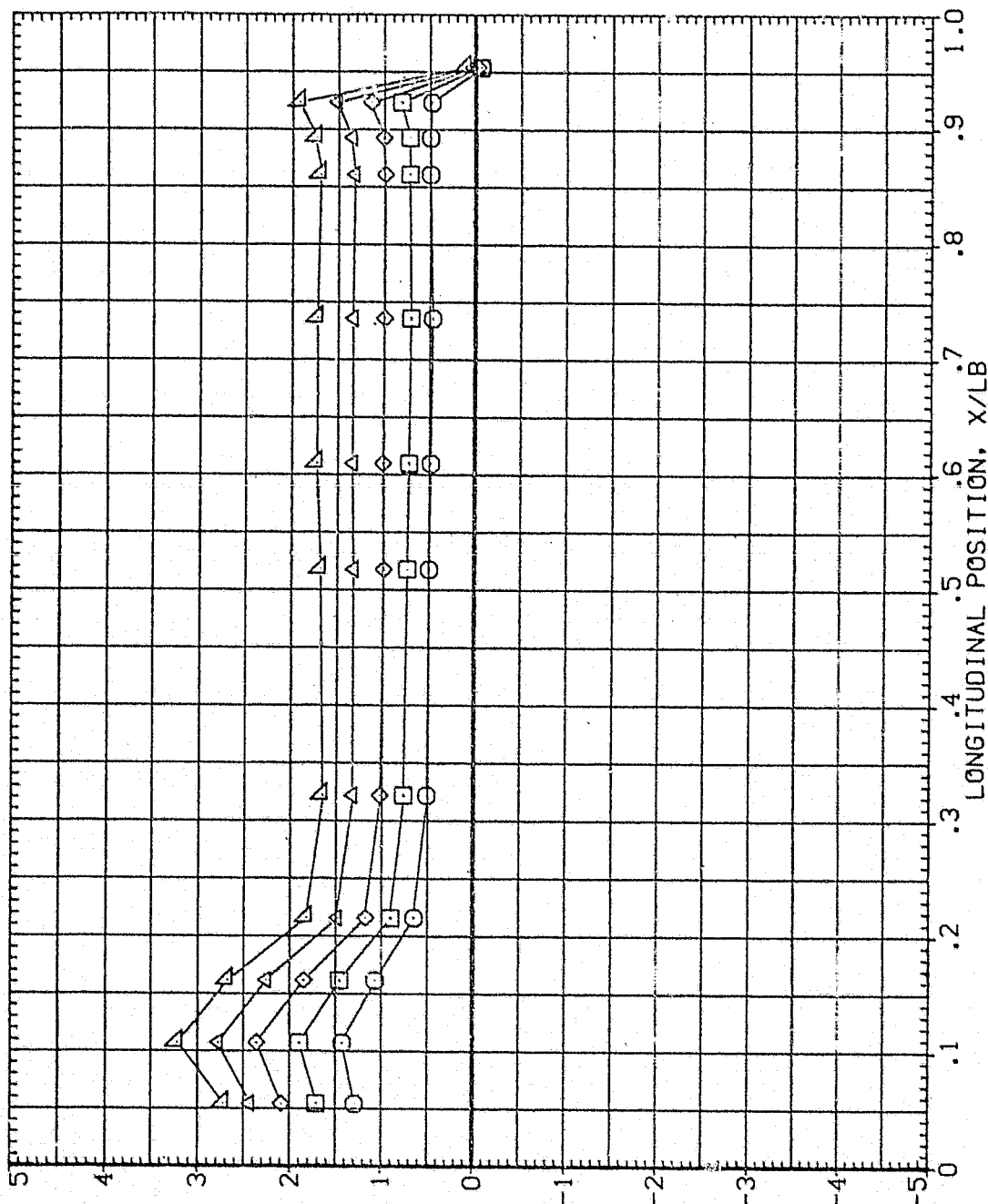


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 3.48

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (Q1A001)

SYMBOL ALPHA BETA MOUNT  
 O -8.310  
 □ -4.290  
 ◇ -.280  
 △ 3.730  
 ▽ 7.750

PARAMETRIC VALUES  
 .000 .000 .000  
 1.000 PHI

LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB

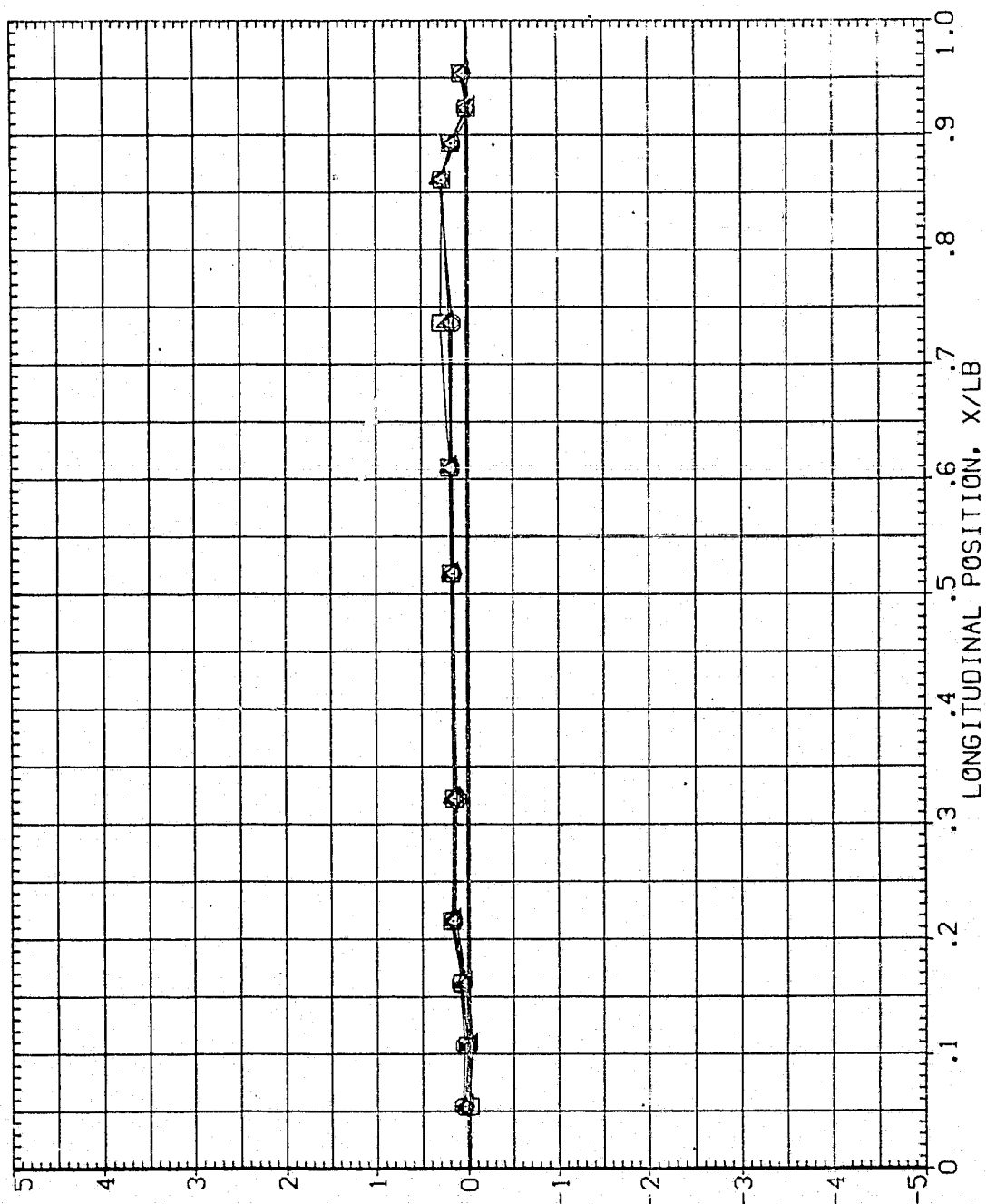


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CA)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A006)

SYMBOL  
 ○  
 □  
 △  
 ▽

ALPHA  
 12.450  
 16.470  
 20.490  
 24.510  
 28.540

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 OFFSET  
 1.000 PHI

20.000  
 .000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XHRP 1086.4000 IN. XT  
 YHRP .0000 IN. YT  
 ZHRP 400.0000 IN. ZT  
 SCALE .0030

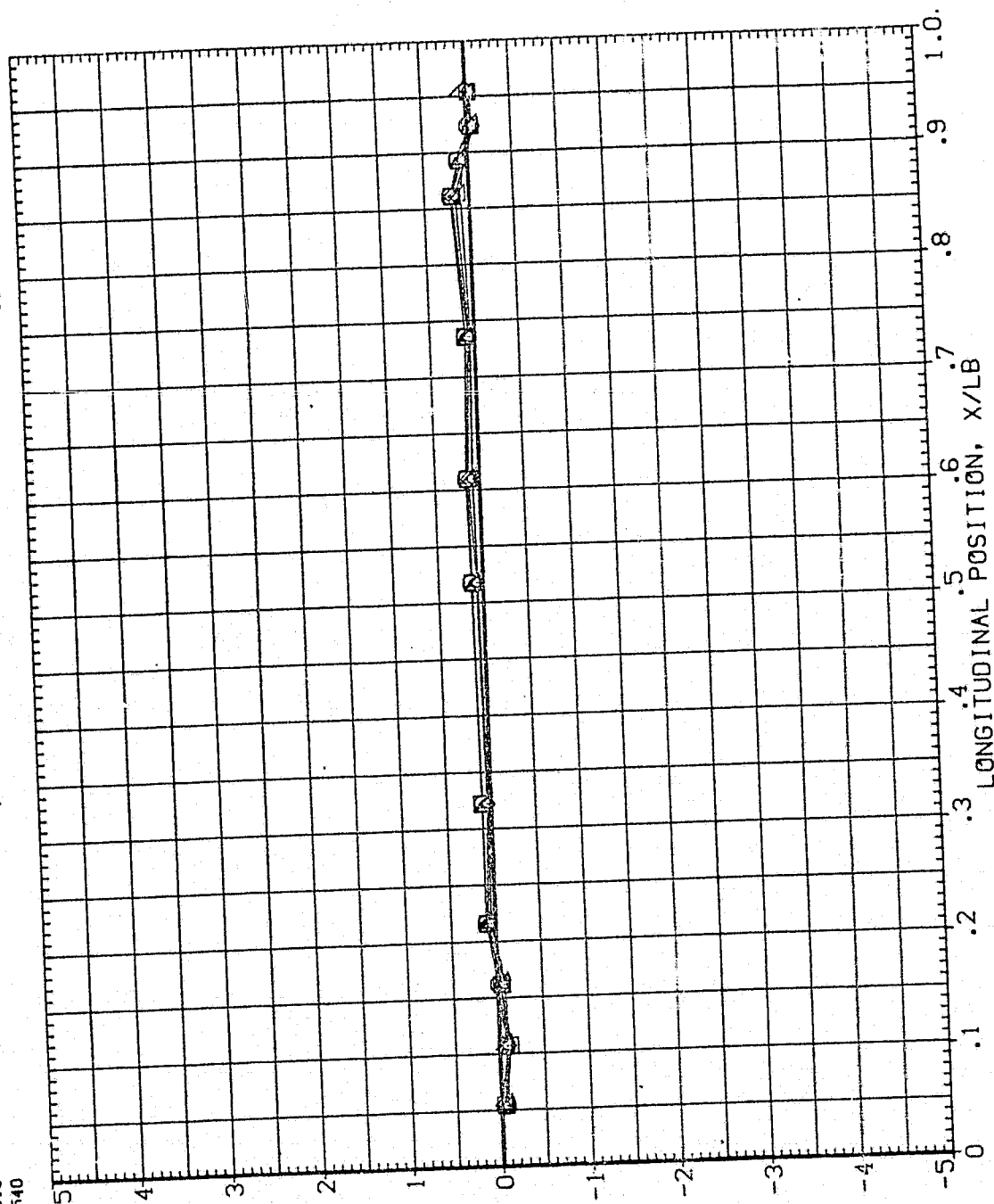


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (Q1A081)

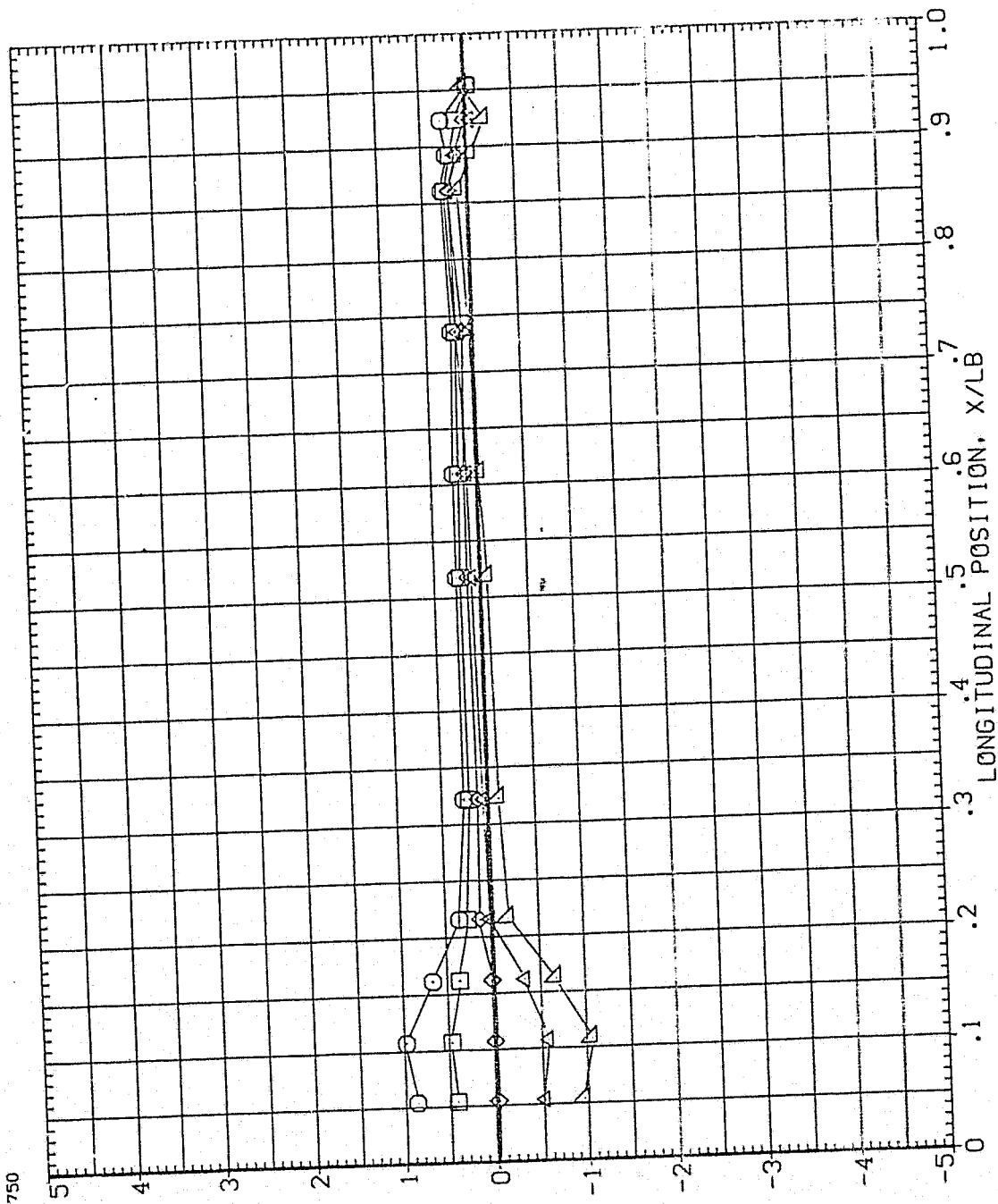
SYMBOL  
 ○  
 □  
 ◇  
 ▽

ALPHA  
 -8.330  
 -4.290  
 -.280  
 3.730  
 7.750

PARAMETRIC VALUES  
 .000  
 .000  
 1.000  
 PHI  
 OFFSET

.000  
 .45,000

REFERENCE INFORMATION  
 SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP .0000  
 ZMRP 400.0000  
 SCALE .0030  
 SO. FT  
 INCHES  
 IN. XT  
 IN. YT  
 IN. ZT



LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB)

FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (Q1A086)

SYMBOL  
 ○  
 □  
 ◇  
 △

ALPHA  
 12.450  
 16.470  
 20.490  
 24.510  
 28.540

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 OFFSET  
 1.000 PHI

20.000  
 45.000

REFERENCE INFORMATION  
 SREF 572.5550 SO. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 IN. XT  
 XMRP 1086.4000 IN. YT  
 YMRP .0000 IN. ZT  
 ZMRP 400.0000  
 SCALE .0030

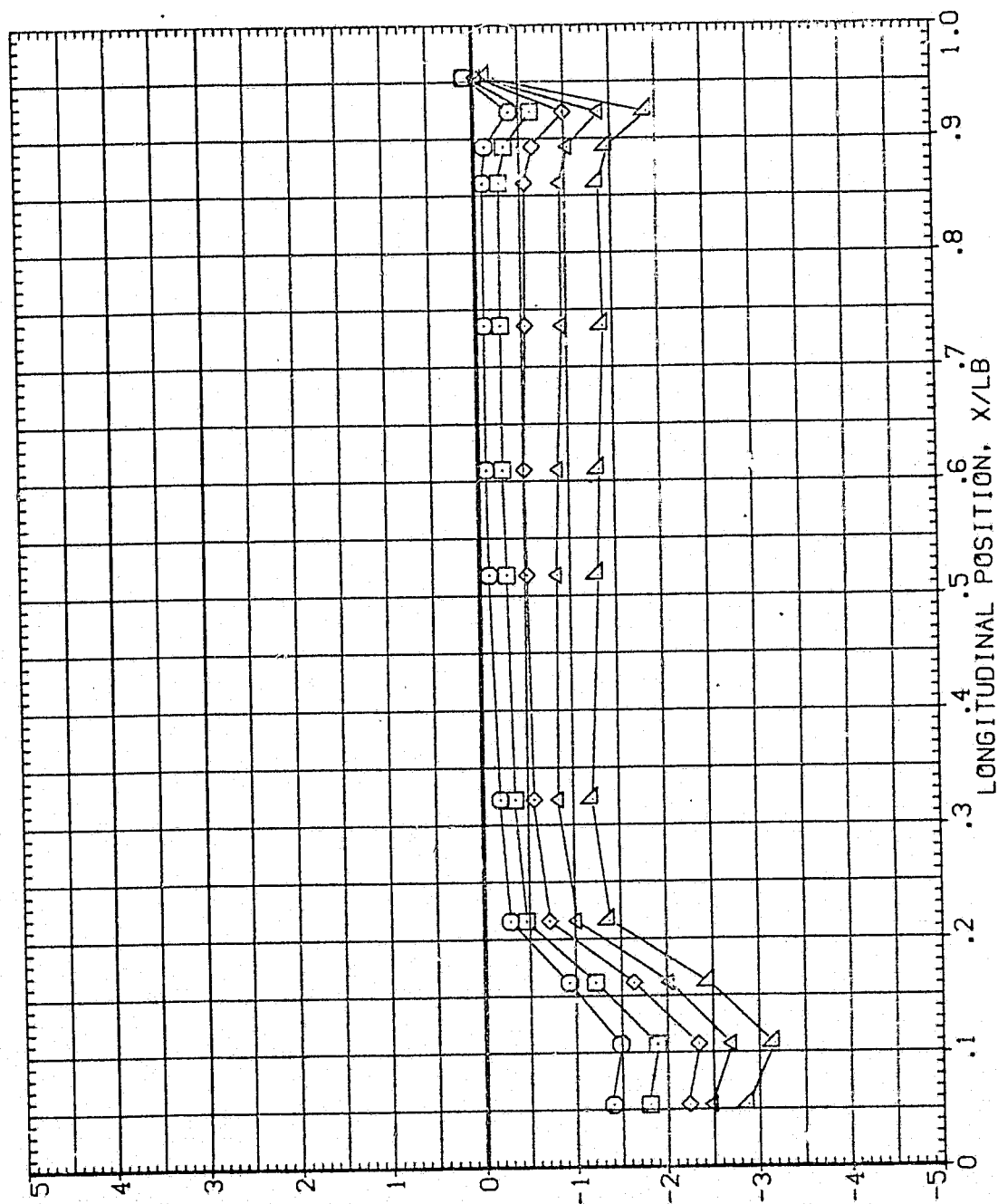


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A011)

SYMBOL  
○ □ ◇ △ ▽

ALPHA  
-8.310  
-4.290  
-.280  
3.730  
7.750

BETA  
MODUIT  
1.000  
1.000  
1.000  
90.000

PARAMETRIC VALUES  
OFFSET  
PHI

REFERENCE INFORMATION  
SREF 572.5550  
LREF 324.0000  
BREF 324.0000  
XHRP 1086.4000  
YHRP .0000  
ZHRP 400.0000  
IN. XT  
IN. YT  
IN. ZT  
SCALE .0030

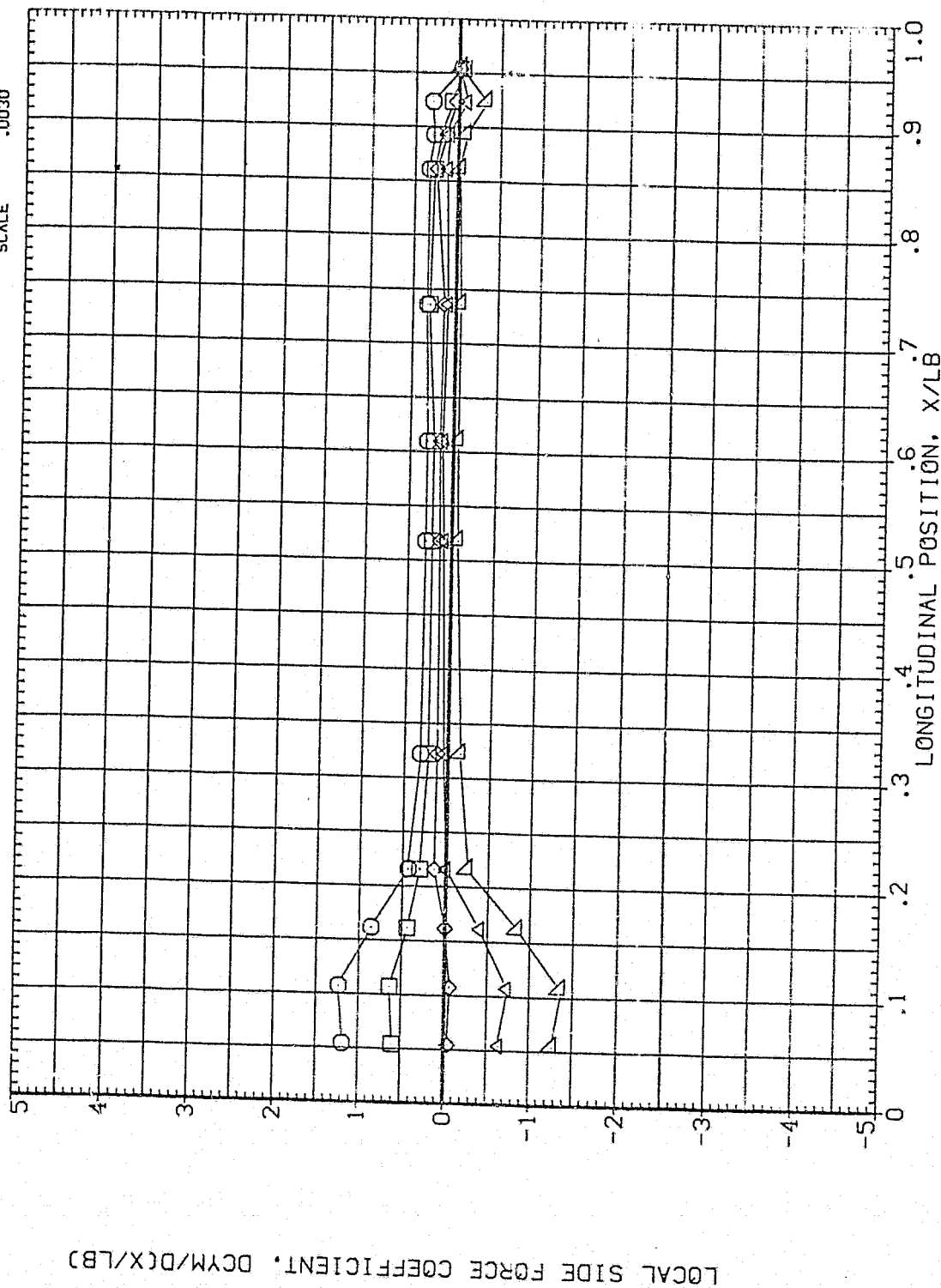


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CA/MACH = 4.96

SYMBOL  
○ □ ◇ △

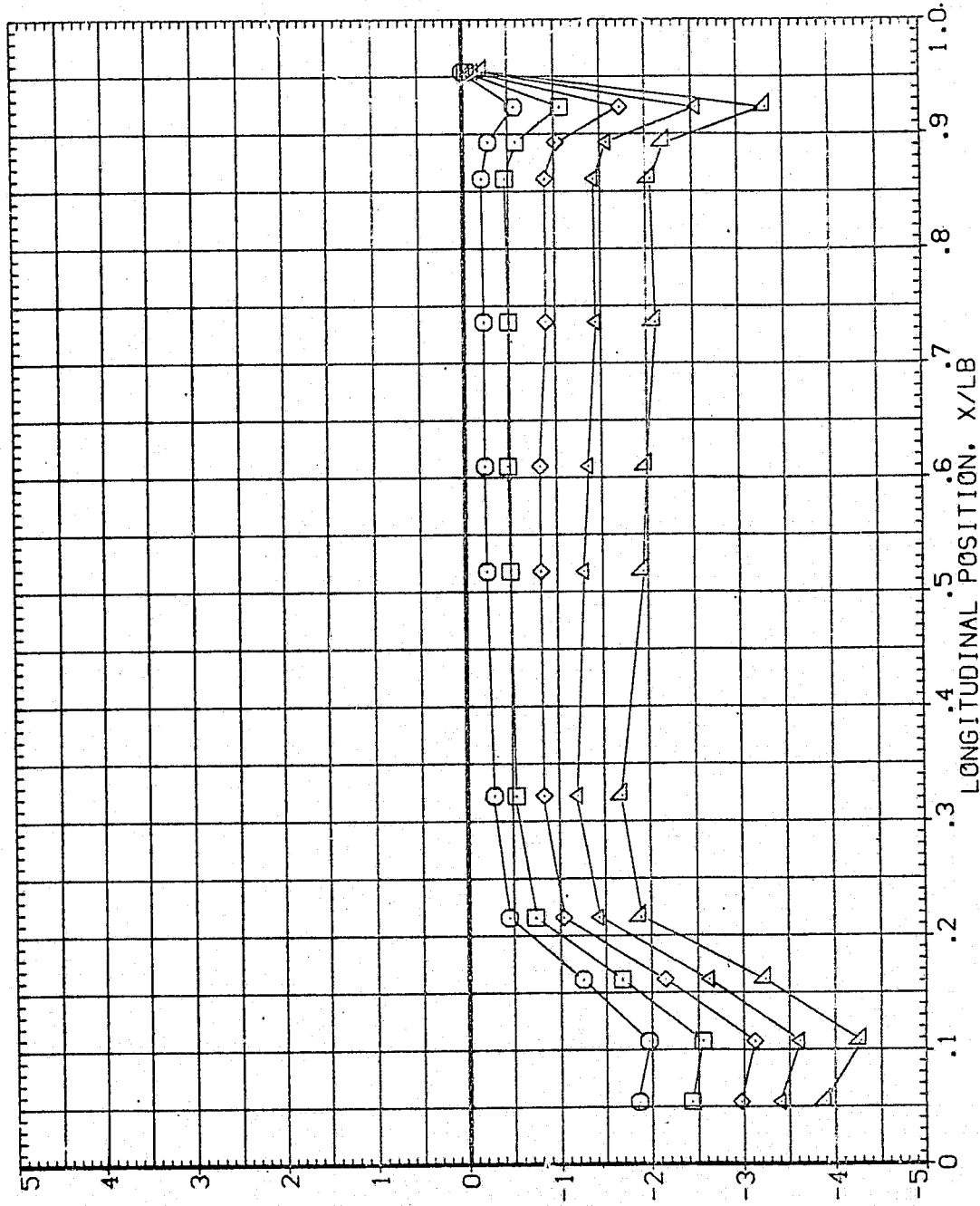
ALPHA  
12.450  
16.470  
20.490  
24.510  
28.540

BETA  
MOUNT

PARAMETRIC VALUES  
.000 1.000  
OFFSET PHI

20.000  
90.000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030



LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB

FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(M)MACH = 4.96



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (Q1A021)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.310	MOUNT	.000	SREF 572.5550
□	-4.290	PHI	1.000	LREF 324.0000
◇	-1.280	OFFSET	.000	BREF 324.0000
△	3.730	PHI	135.000	XMRP 1086.4000
▽	7.750	PHI		YMRP .0000
				ZMRP 400.3000
				SCALE .0030

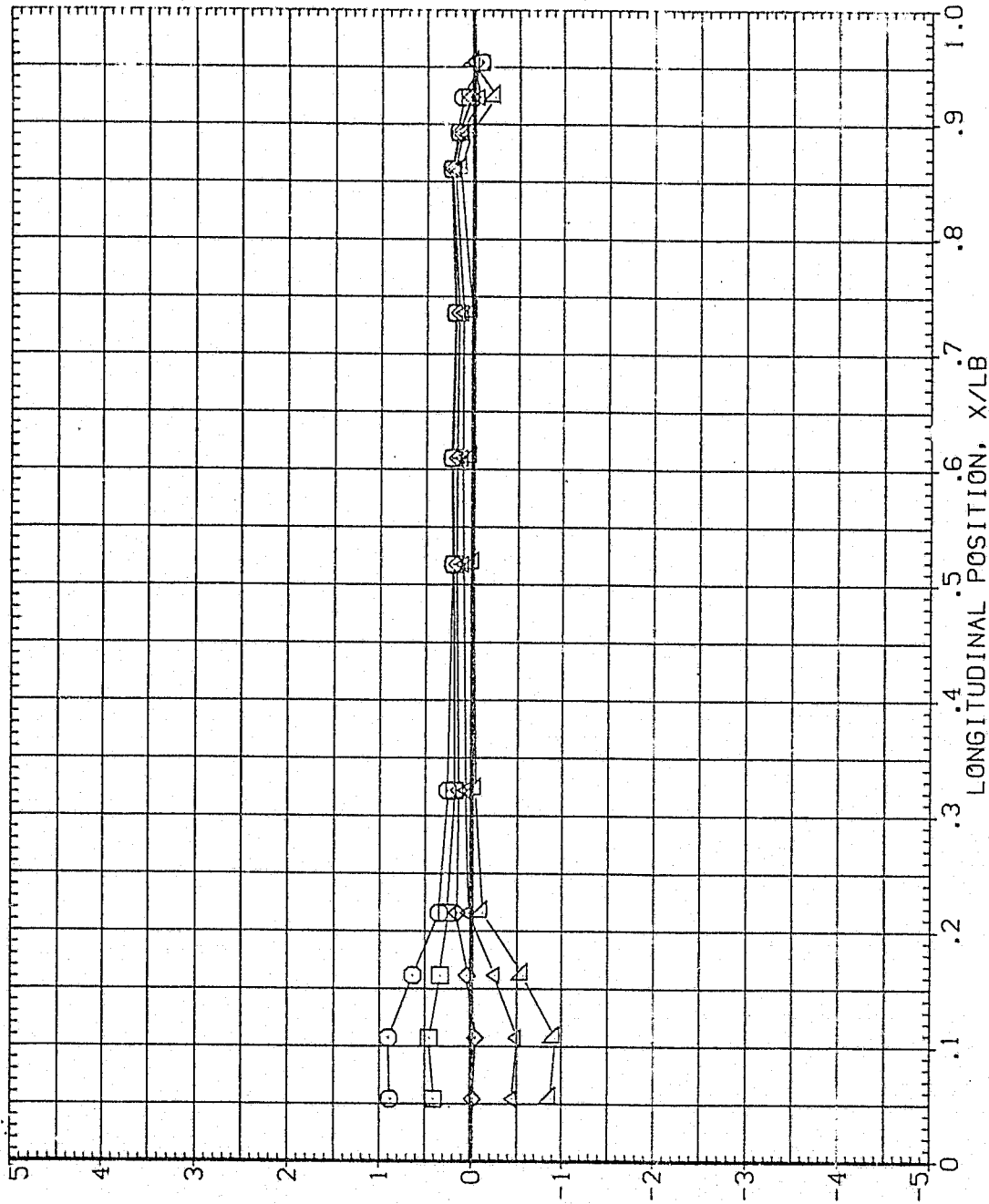


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

SYMBOL  
□  
◇  
△  
▽

ALPHA  
12.450  
16.450  
20.490  
24.510  
28.510

BETA  
HOUNT  
1.000  
20.000  
135.000  
PHI

PARAMETRIC VALUES  
.000  
1.000  
20.000  
135.000  
PHI

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030

LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB)

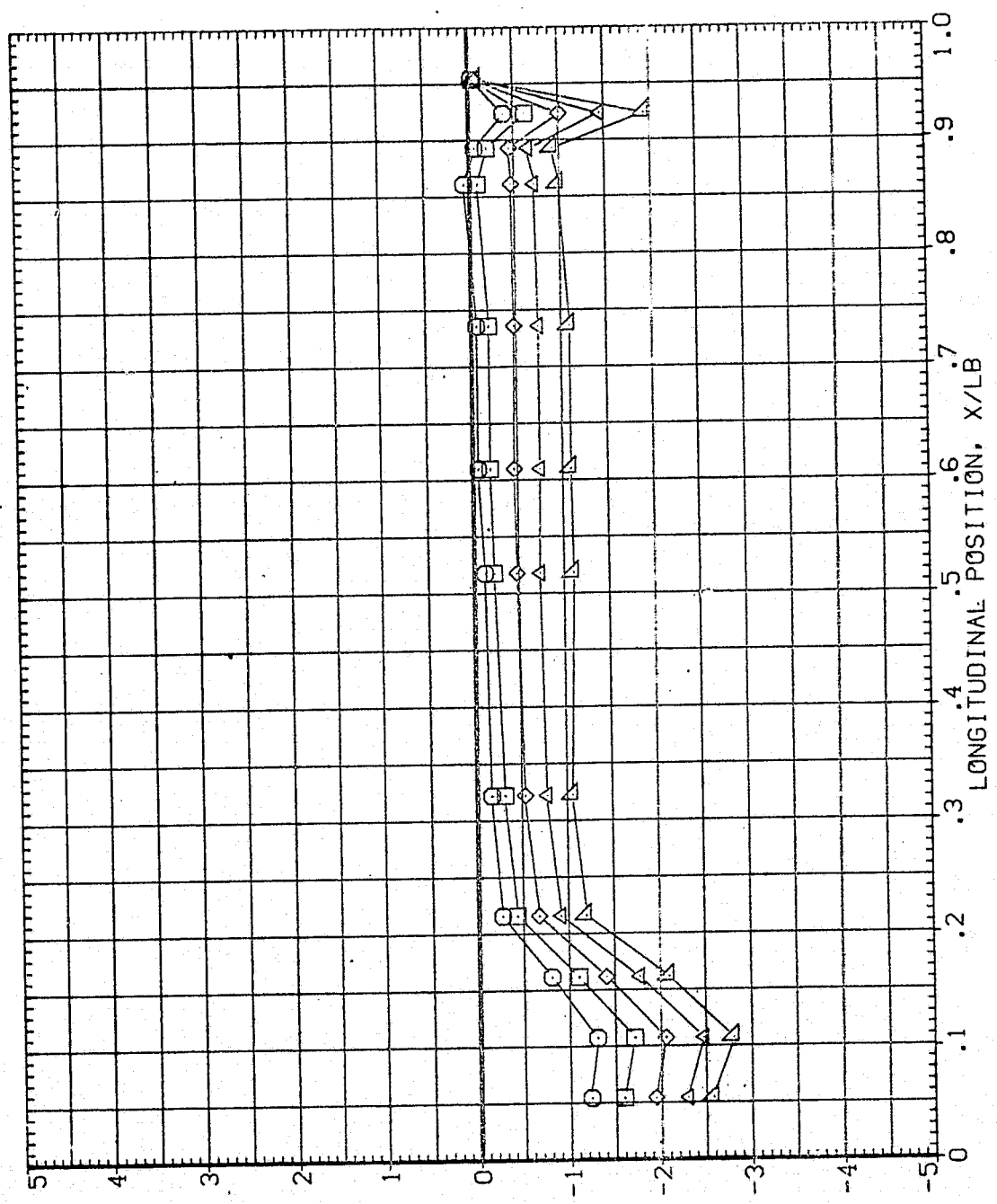


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

CA)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (Q1A031)

SYMBOL ALPHA BETA MOUNT

PARAMETRIC VALUES

REF. INFORMATION

SO. FT 572.5550

INCHES 324.0000

INCHES 324.0000

IN. X1 1086.4000

IN. Y1 .0000

IN. Z1 400.0000

SCALE 400.0030

ALPHA -8.290

BETA -4.290

MOUNT -280

3.730

7.750

PARAMETRIC VALUES

REF. INFORMATION

SO. FT 572.5550

INCHES 324.0000

INCHES 324.0000

IN. X1 1086.4000

IN. Y1 .0000

IN. Z1 400.0000

SCALE 400.0030

SYMBOL

□

◇

△

▽

LOCAL SIDE FORCE COEFFICIENT,  $C_{YM}/D(X/LB)$

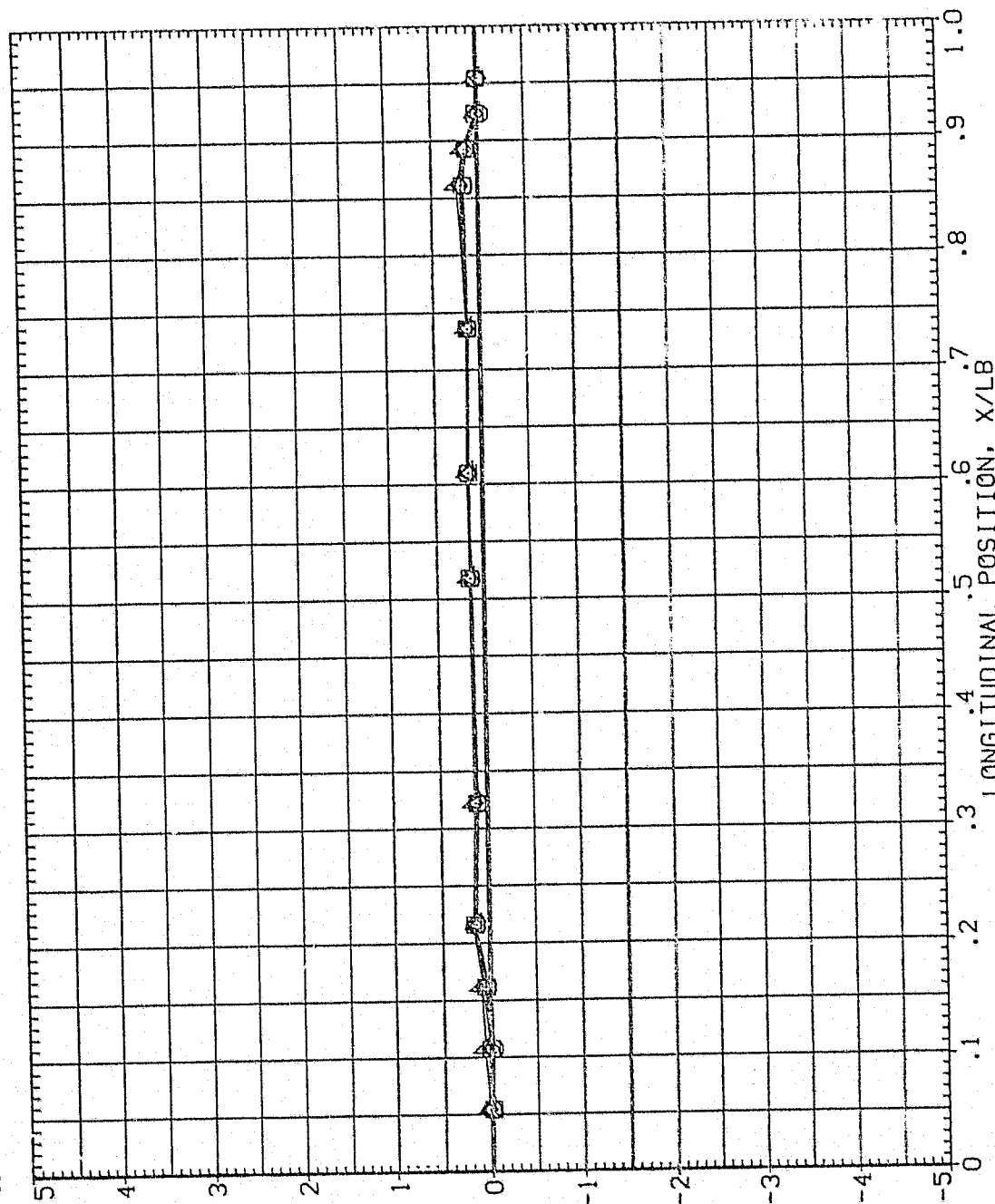


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (Q1A036)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	ALPHA	BETA	OFFSET	SREF	572.5550	sq. ft
○	12.450	0.000	PHI	LREF	324.0000	INCHES
□	16.470	1.000	PHI	BREF	324.0000	INCHES
◇	20.490			XMRP	1086.4000	IN. XT
△	24.510			YMRP	400.0000	IN. YT
▽	28.560			ZMRP	400.0000	IN. ZT
				SCALE	.0030	

LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB)

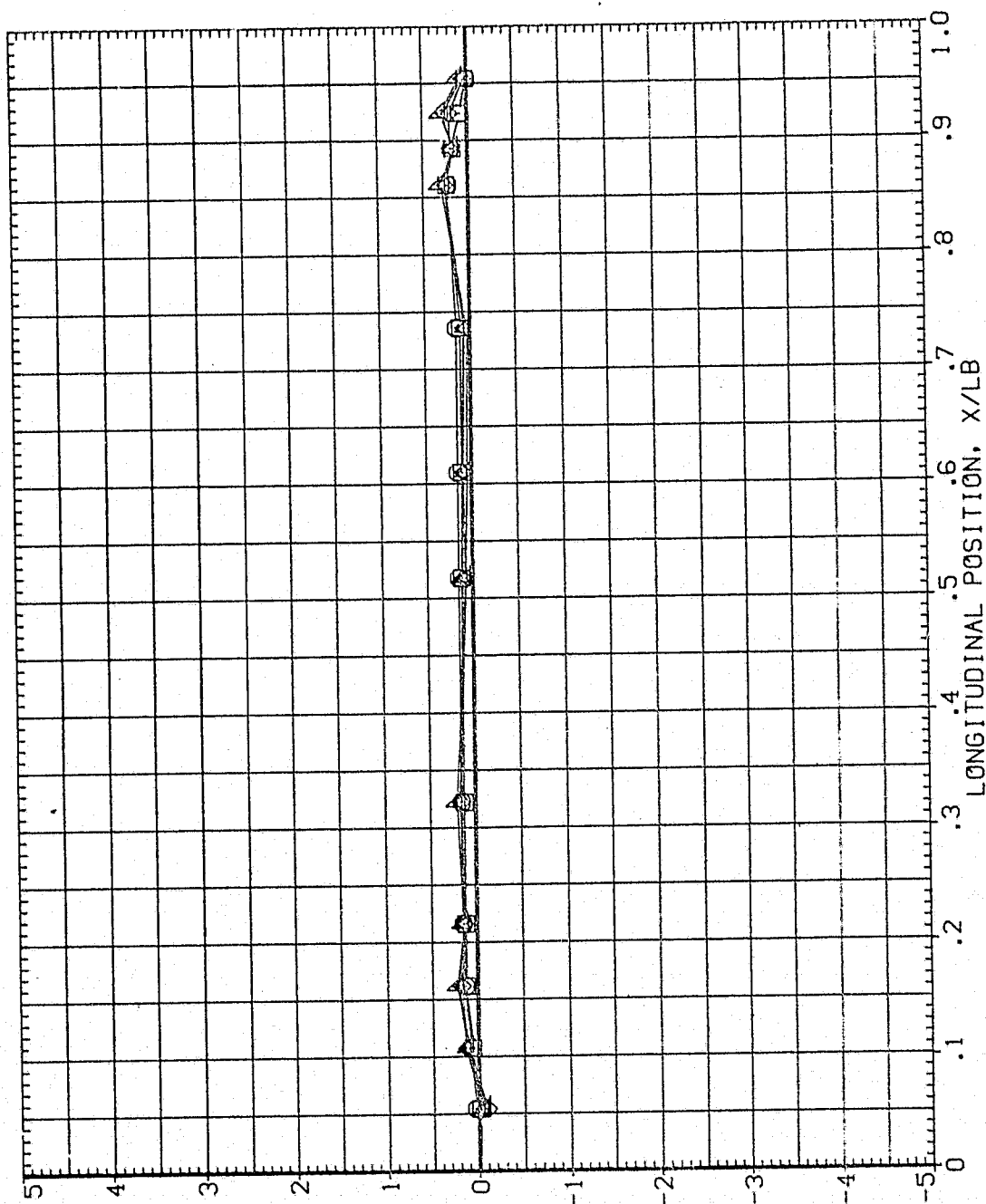


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (Q1A041)

SYMBOL  
 ▽  
 ◇  
 □  
 ○

ALPHA  
 -8.310  
 -4.290  
 -.280  
 3.730  
 7.750

BETA  
 HEIGHT

PARAMETRIC VALUES  
 .000  
 .000  
 1.000  
 PHI

.000  
 225.000

REFERENCE INFORMATION  
 SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XHRP 1086.4000  
 YHRP .0000  
 ZHRP 400.0000  
 SCALE .0030

LOCAL SIDE FORCE COEFFICIENT,  $DCYMD(X/LB)$

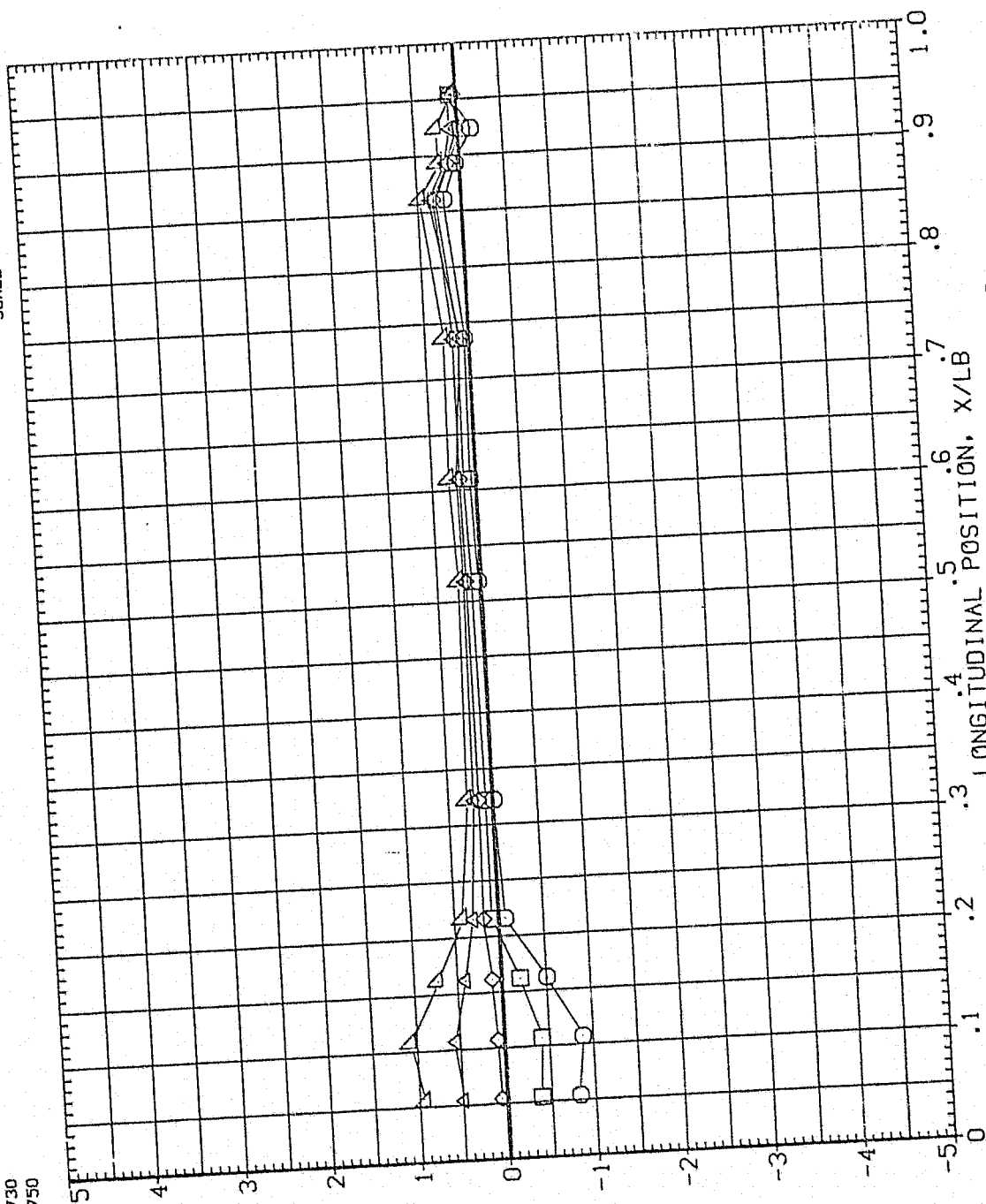


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES		REFERENCE INFORMATION	
			.000	OFFSET	SREF	SQ. FT
○	12.450	MOUNT	1.000	PHI	LREF	INCHES
□	16.450				BREF	INCHES
◇	20.490				XHRP	IN. XT
△	24.510				ZHRP	IN. XT
	28.540				SCALE	.0030

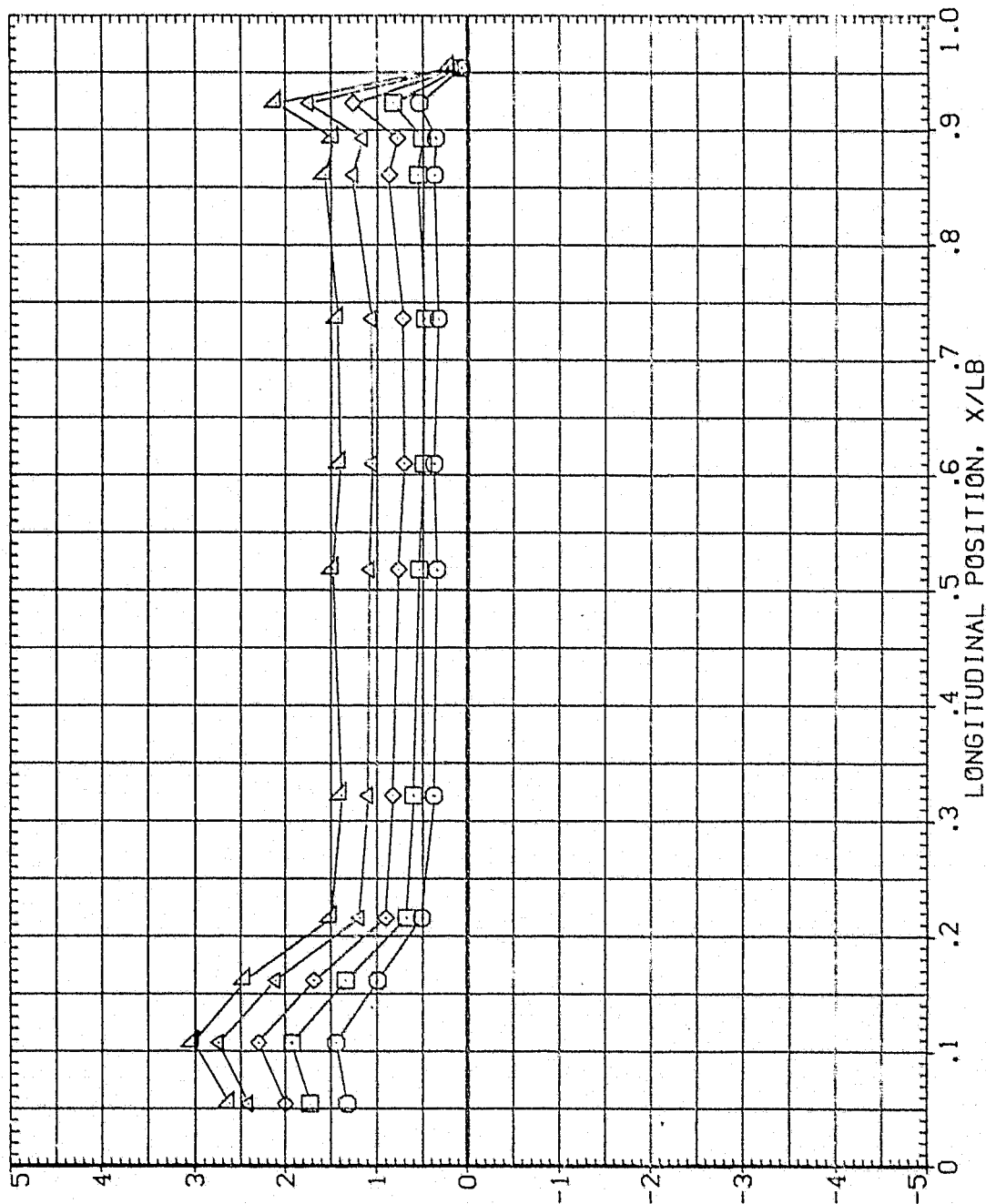


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(M)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (01A051)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.310	HOUNT	.000 OFFSET .000	SREF 572.5550 SO. FT
□	-4.290	PHI	1.000	LREF 324.0000 INCHES
◇	-1.280			BREF 324.0000 INCHES
△	3.750			IN. XT
▽	7.750			IN. YT
				IN. ZT
				ZMRP 400.0000
				SCALE .0030

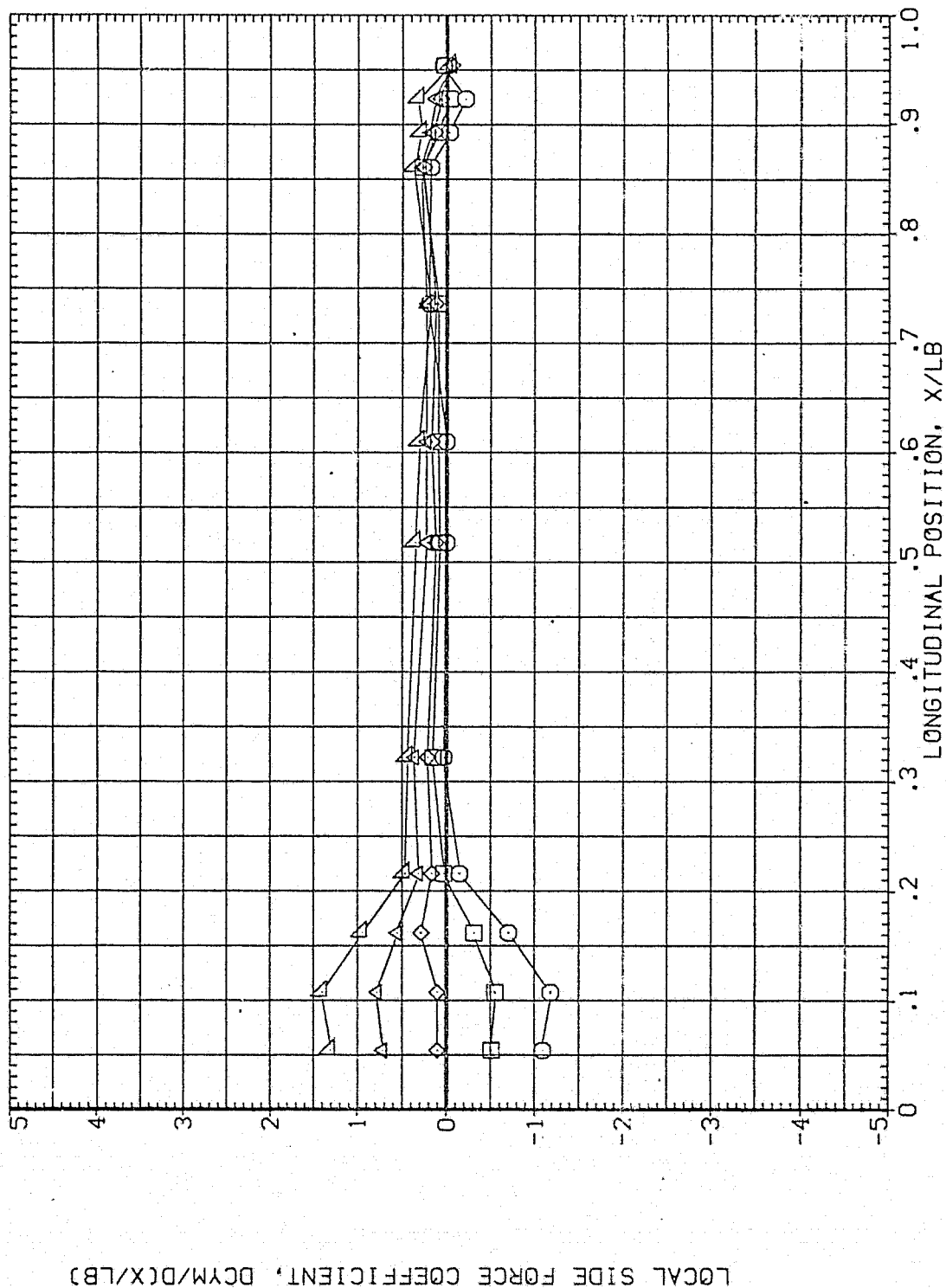


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XHRP 1086.4000 IN. XI  
 YHRP .0000 IN. YI  
 ZHRP 400.0000 IN. ZI  
 SCALE .0030

PARAMETRIC VALUES  
 .0000 OFFSET 20.000  
 1.000 PHI 270.000

ALPHA  
 12.450  
 16.450  
 20.490  
 24.530  
 28.540

BETA  
 MOUNT

SYMBOL  
 ○  
 □  
 ◇  
 △

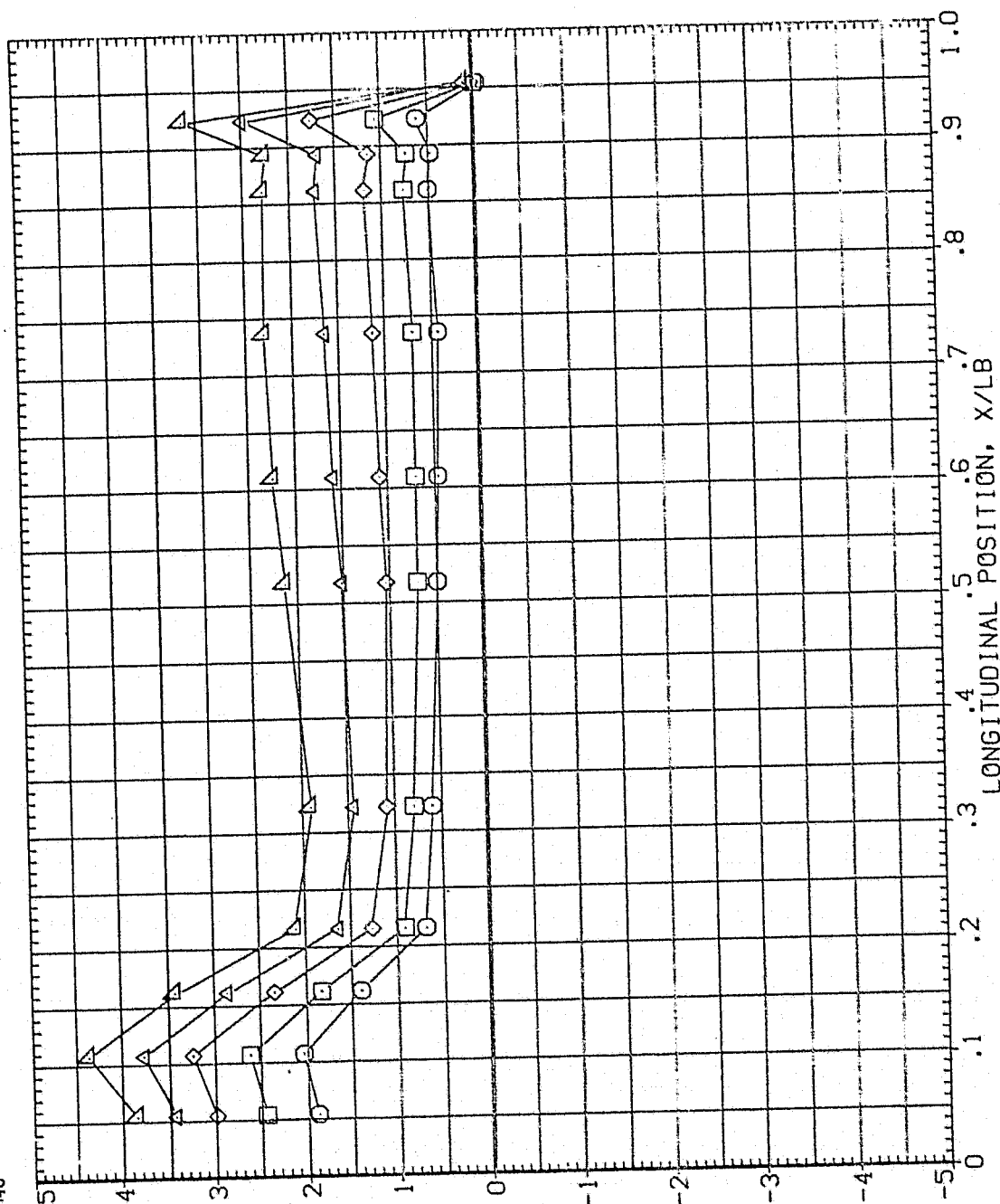


FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A)MACH = 4.96

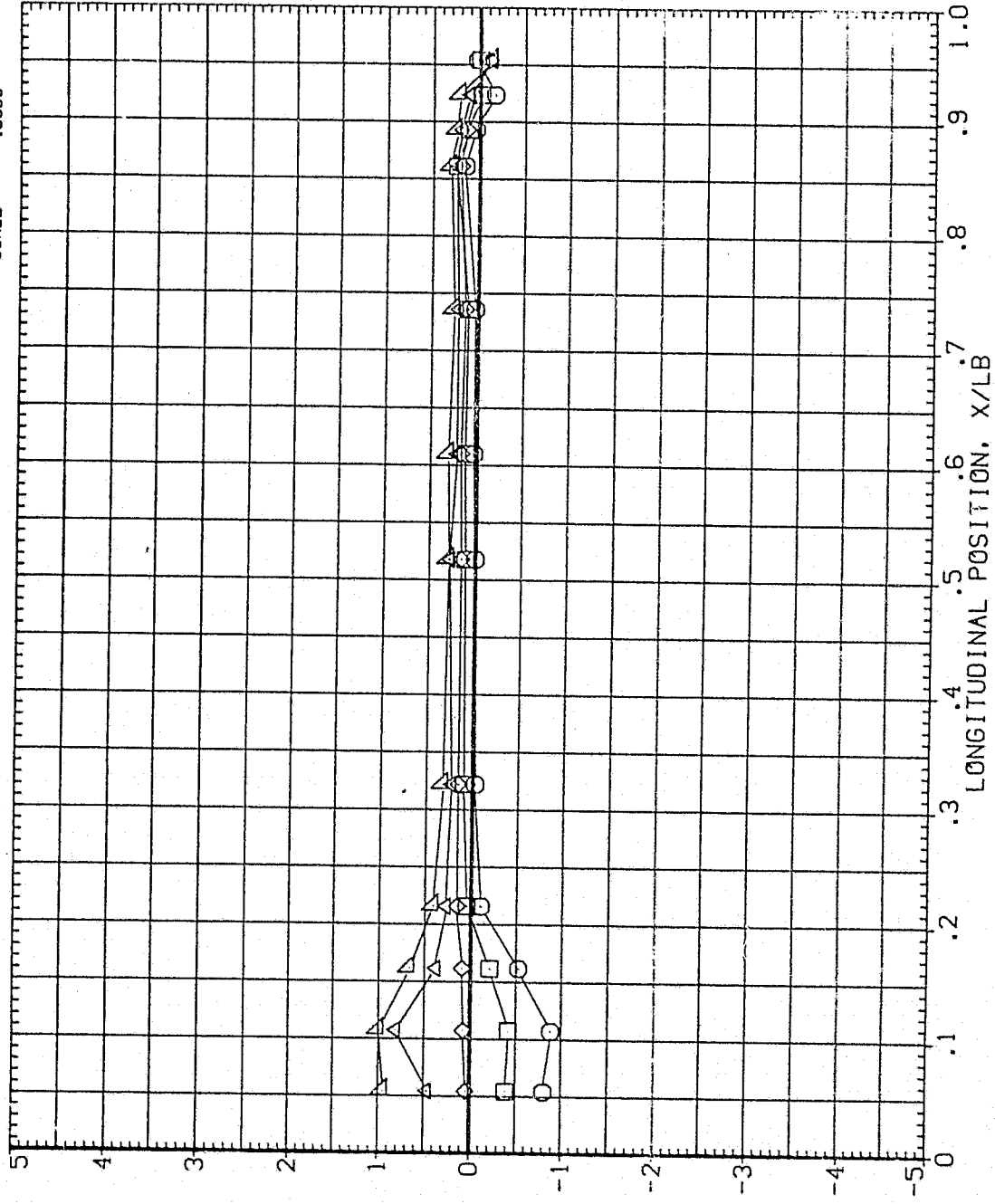


MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1 (Q1A091)

SYMBOL  
 ○  
 □  
 ◇  
 △

PARAMETRIC VALUES  
 ALPHA BETA  
 -8.310 MOUNT  
 -4.290  
 -2.280  
 3.730  
 7.750  
 .000 OFFSET  
 315.000 PHI

REFERENCE INFORMATION  
 SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP 400.0000  
 ZMRP 400.0000  
 SCALE .0030  
 SO. FT  
 INCHES  
 INCHES  
 IN. XT  
 IN. YT  
 IN. ZT



LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB)

FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES  
 (MACH = 4.96)

SYMBOL  
 ○  
 □  
 ◇  
 △

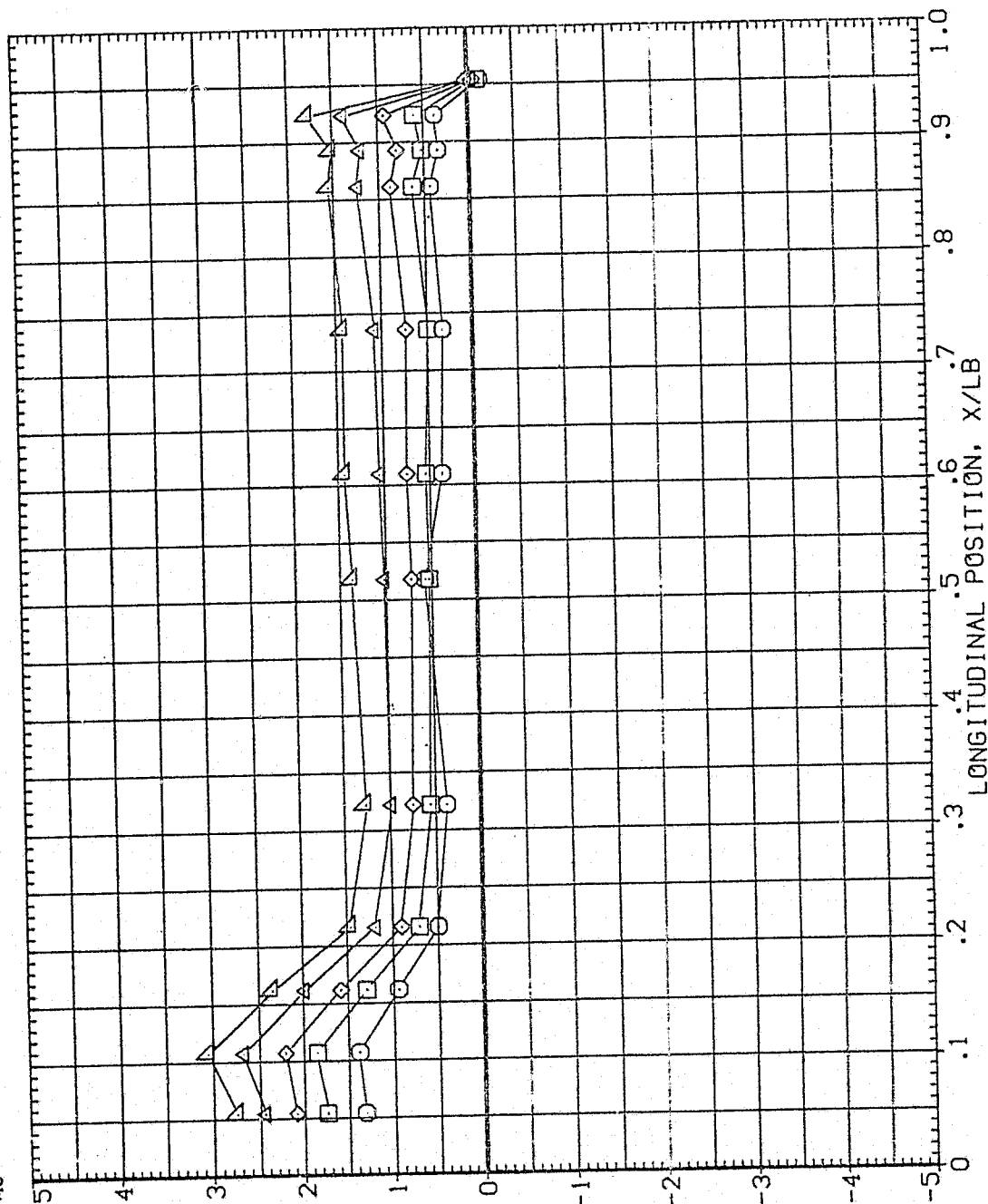
ALPHA  
 12.430  
 16.470  
 20.490  
 24.510  
 28.540

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 OFFSET  
 1.000 PHI

20.000  
 315.000

REFERENCE INFORMATION  
 SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP .0000  
 ZMRP 400.0000  
 SCALE .0030



LOCAL SIDE FORCE COEFFICIENT, DCYM/DC(X/LB)

FIG. 7 LOCAL SIDE FORCE DISTRIBUTION - T1 WITH PROTUBERANCES

(A) MACH = 4.96

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	PARAMETRIC VALUES		
	THETA	ALPHA	MACH
○	.000	51.110	1.960
□	14.000		
◇	24.000		
		BETA	60.000
		OFFSET	.000
		PHI	2.000
			.000

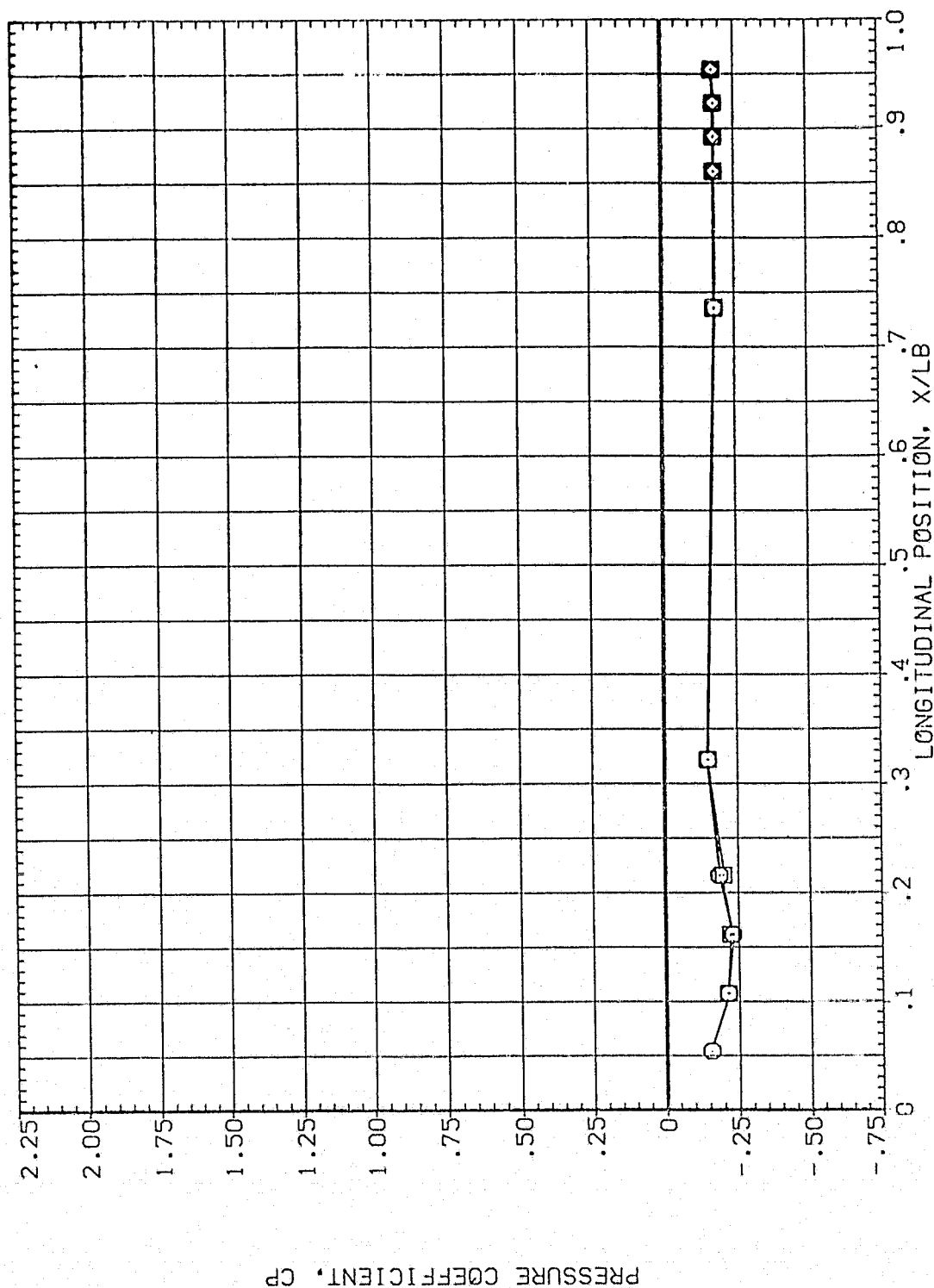


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	45.000	51.110	51.110	51.110	1.960	1.960	BETA	OFFSET	PHI	60.000
○	67.500						Mount	2.000		.000
◇	90.000									

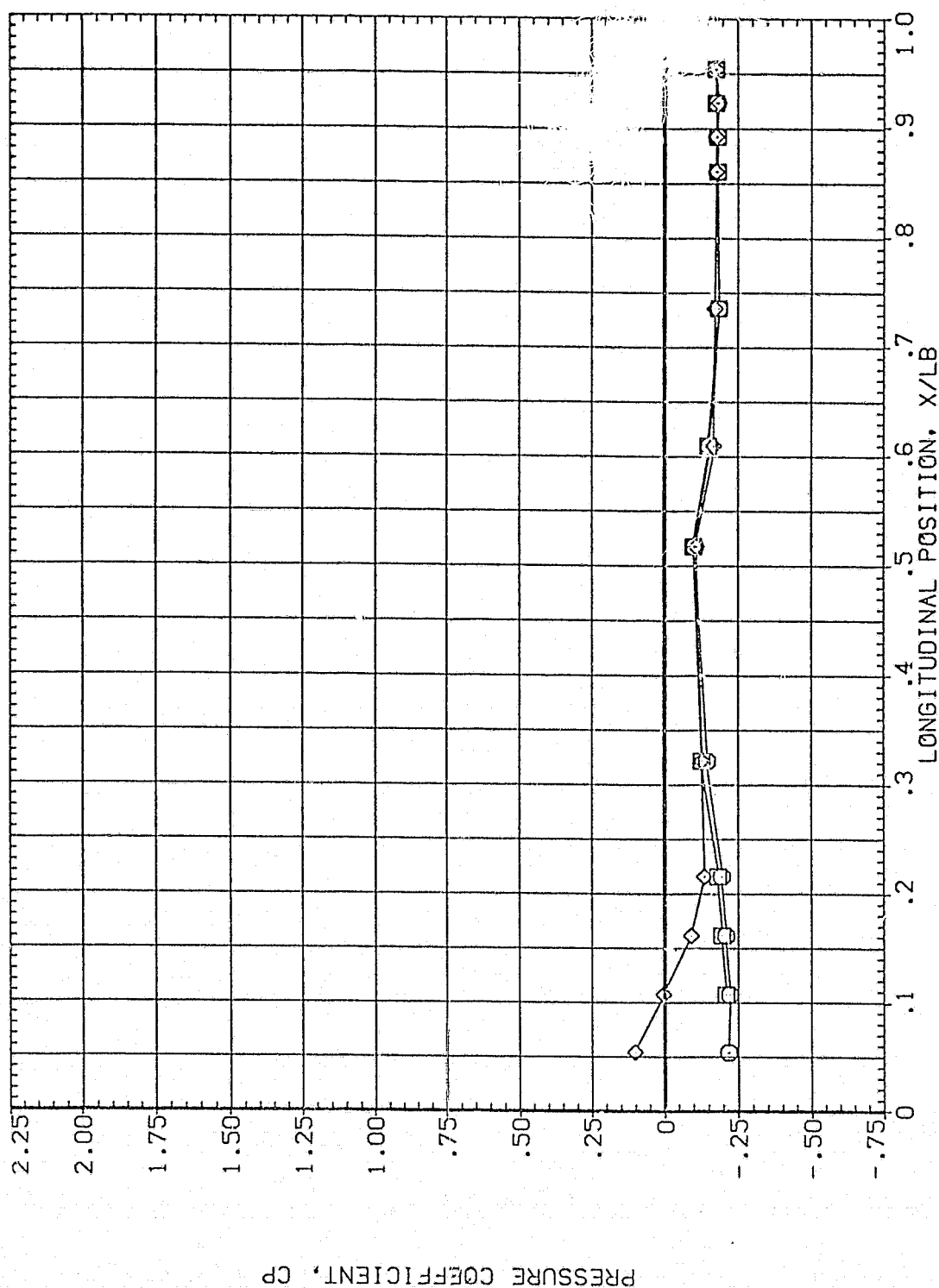


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	51.110	1.960	2.000	.000	.000
□	135.000					
◇	157.500					

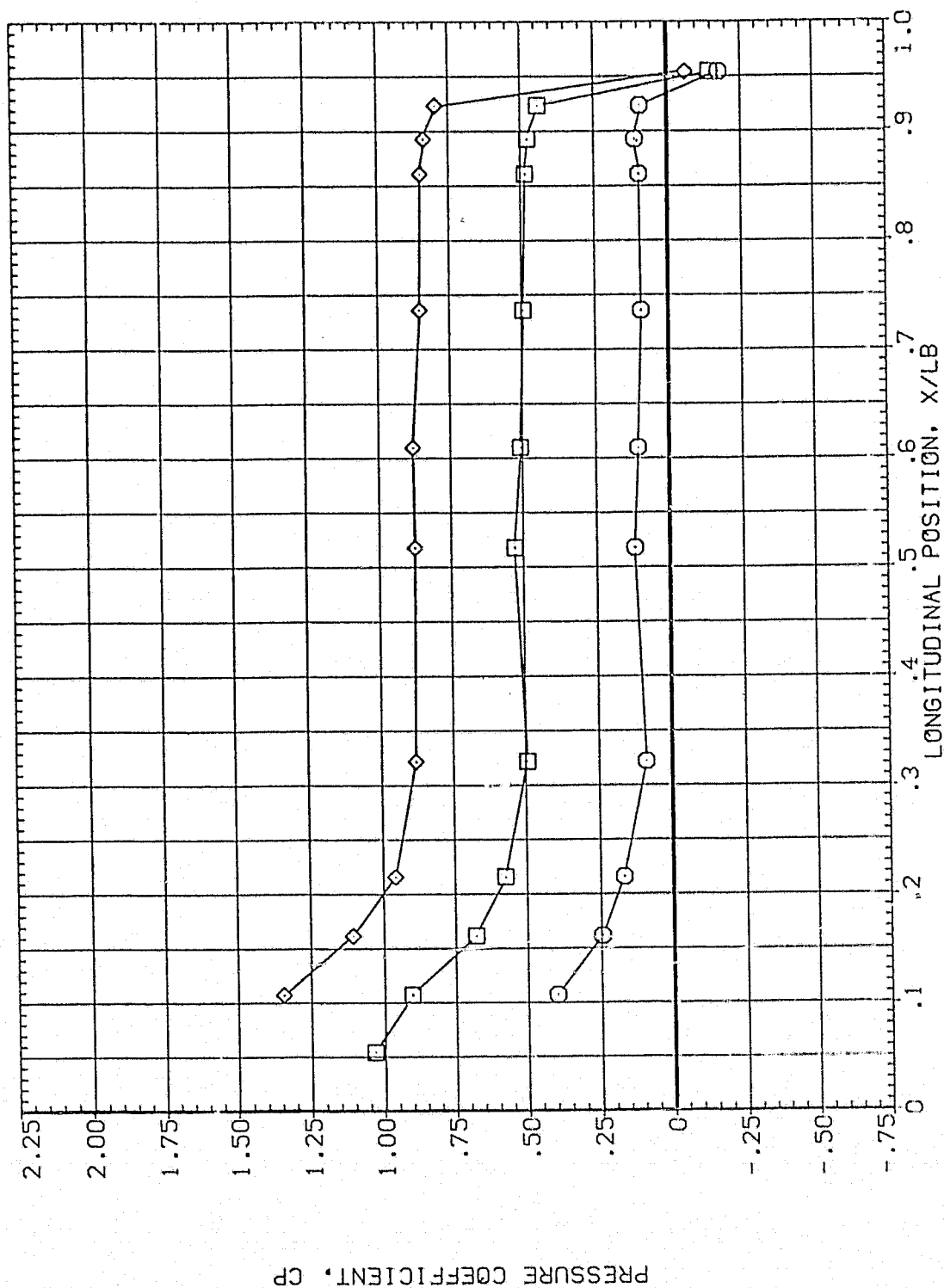


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES
○	180.000	51.110	1.960	BETA .000 OFFSET 60.000
□	202.500			PHI 2.000 .000
◇	225.000			

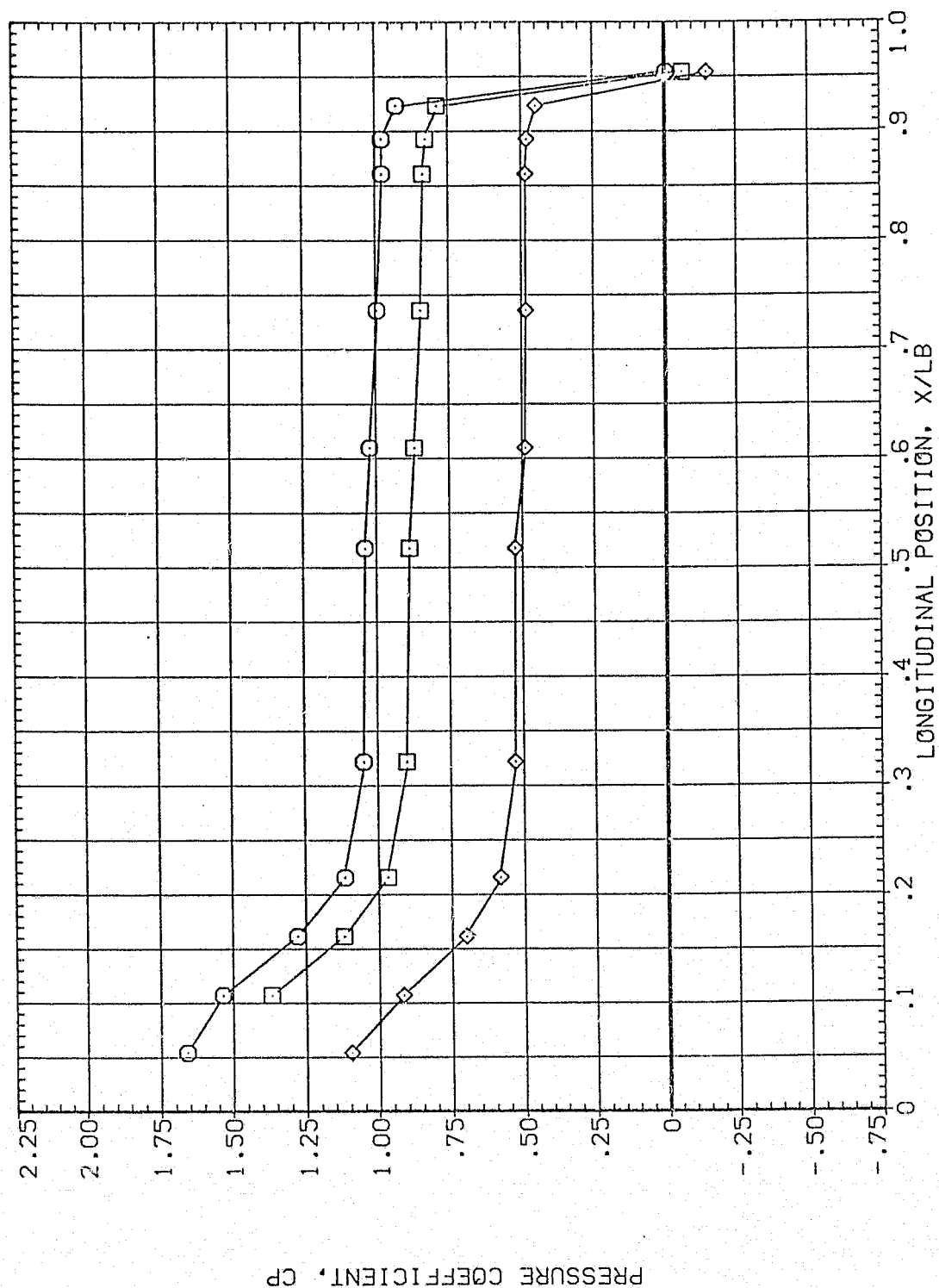


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	51.110	1.960	MOUNT	.000
□	270.000				2.000
◇	292.500				60.000
					PHI
					.000

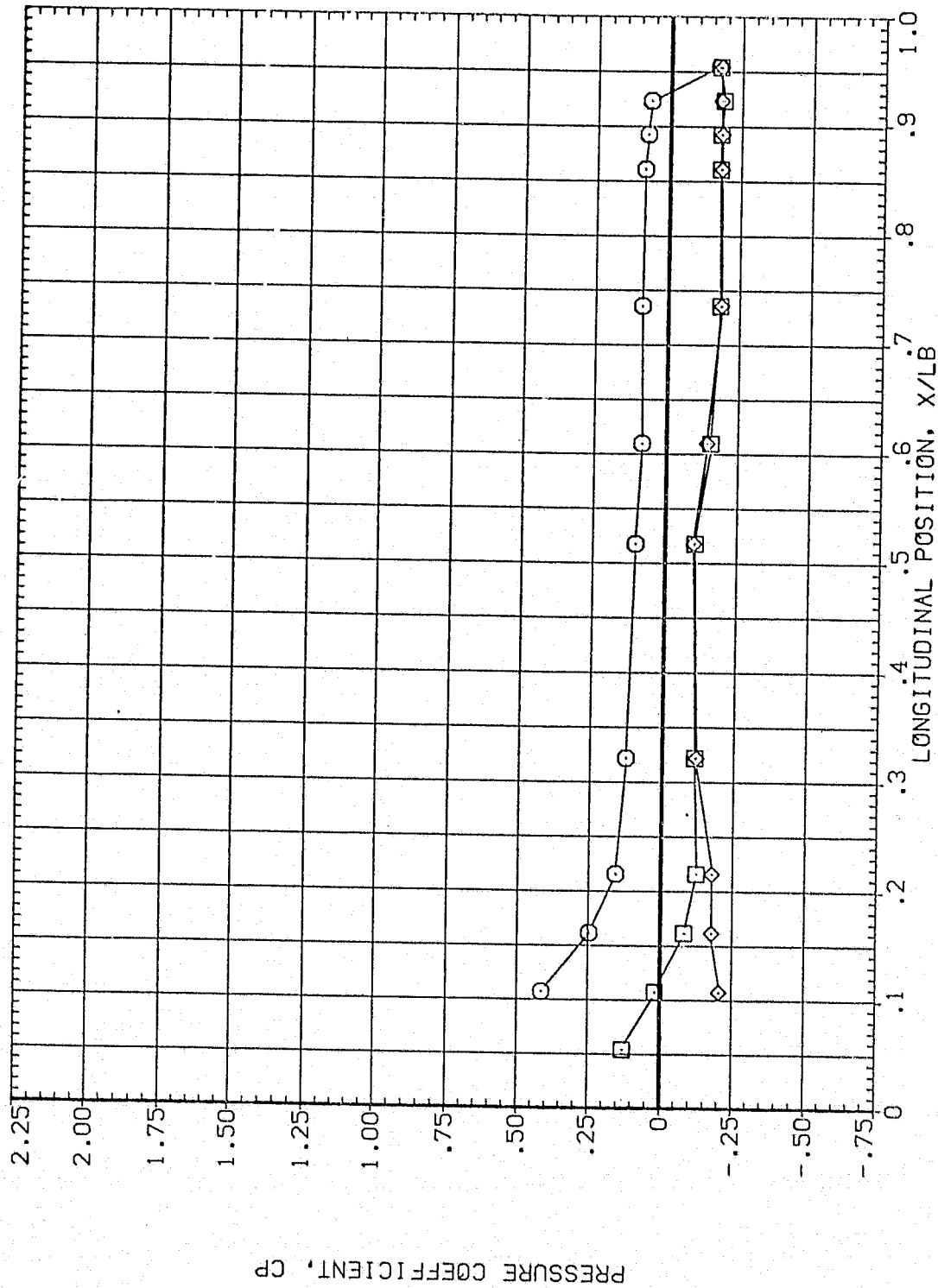


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL THETA ALPHA MACH  
 O 315.000 51.110 1.960  
 □ 326.000  
 ◇ 345.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 60.000  
 .000

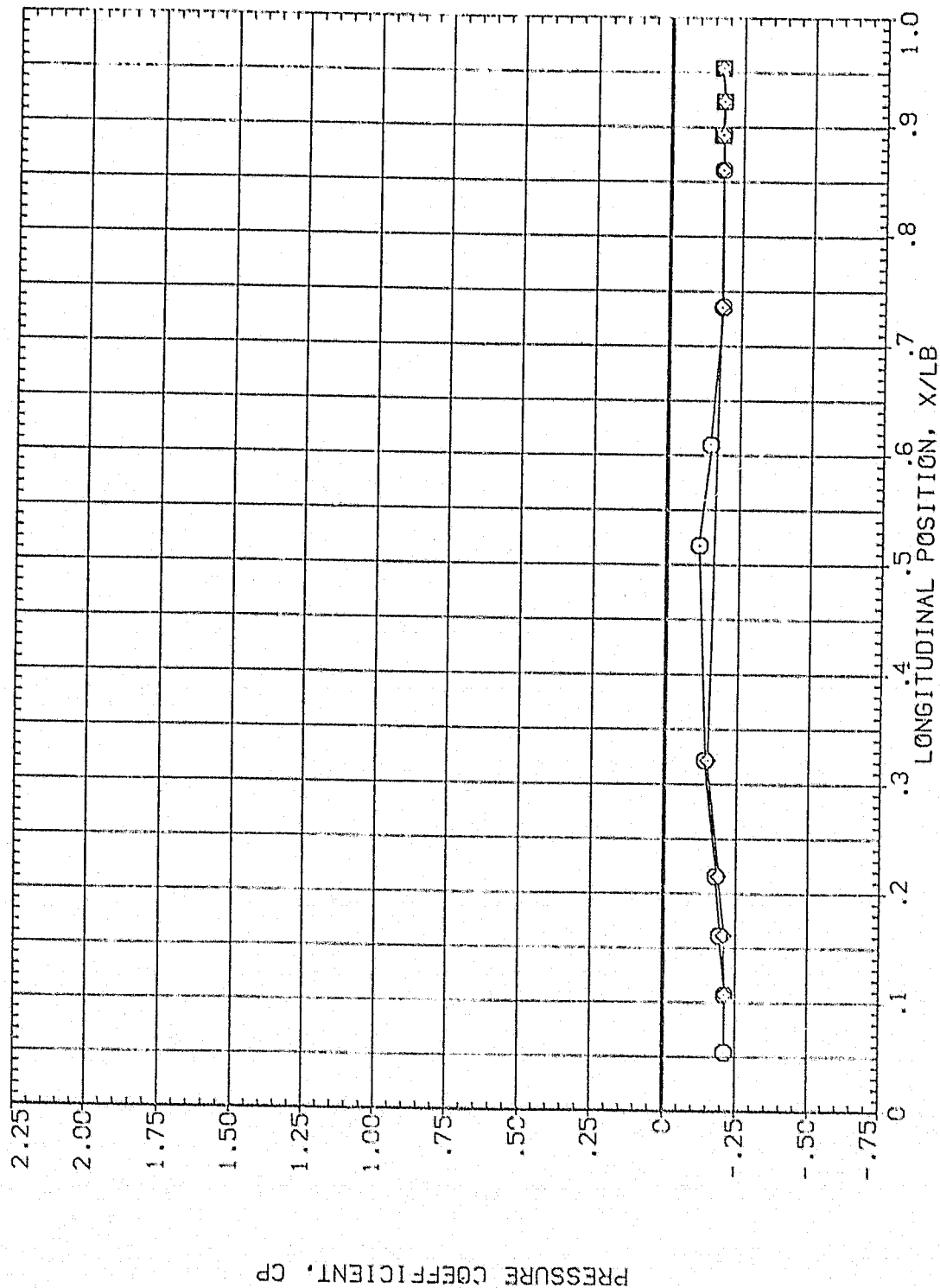


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL THETA ALPHA MACH  
 O .000 54.110 1.960  
 □ 14.000  
 ◇ 24.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 60.000  
 .000

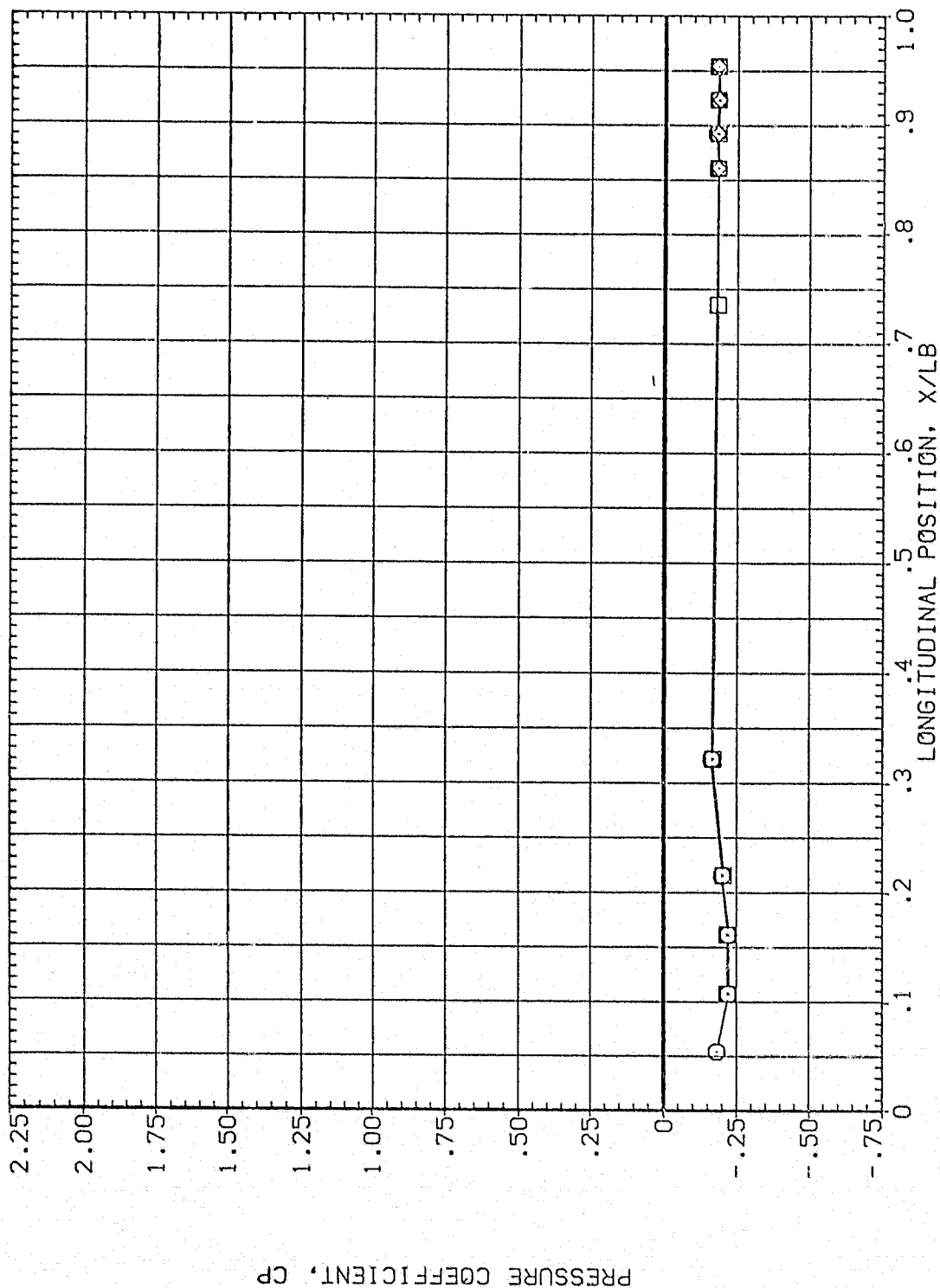


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	45.000	67.500	54.110	54.110	1.960	1.960	BETA	.000	OFFSET	60.000
○	67.500						MOUNT	2.000	PHI	.000
◇	90.000									

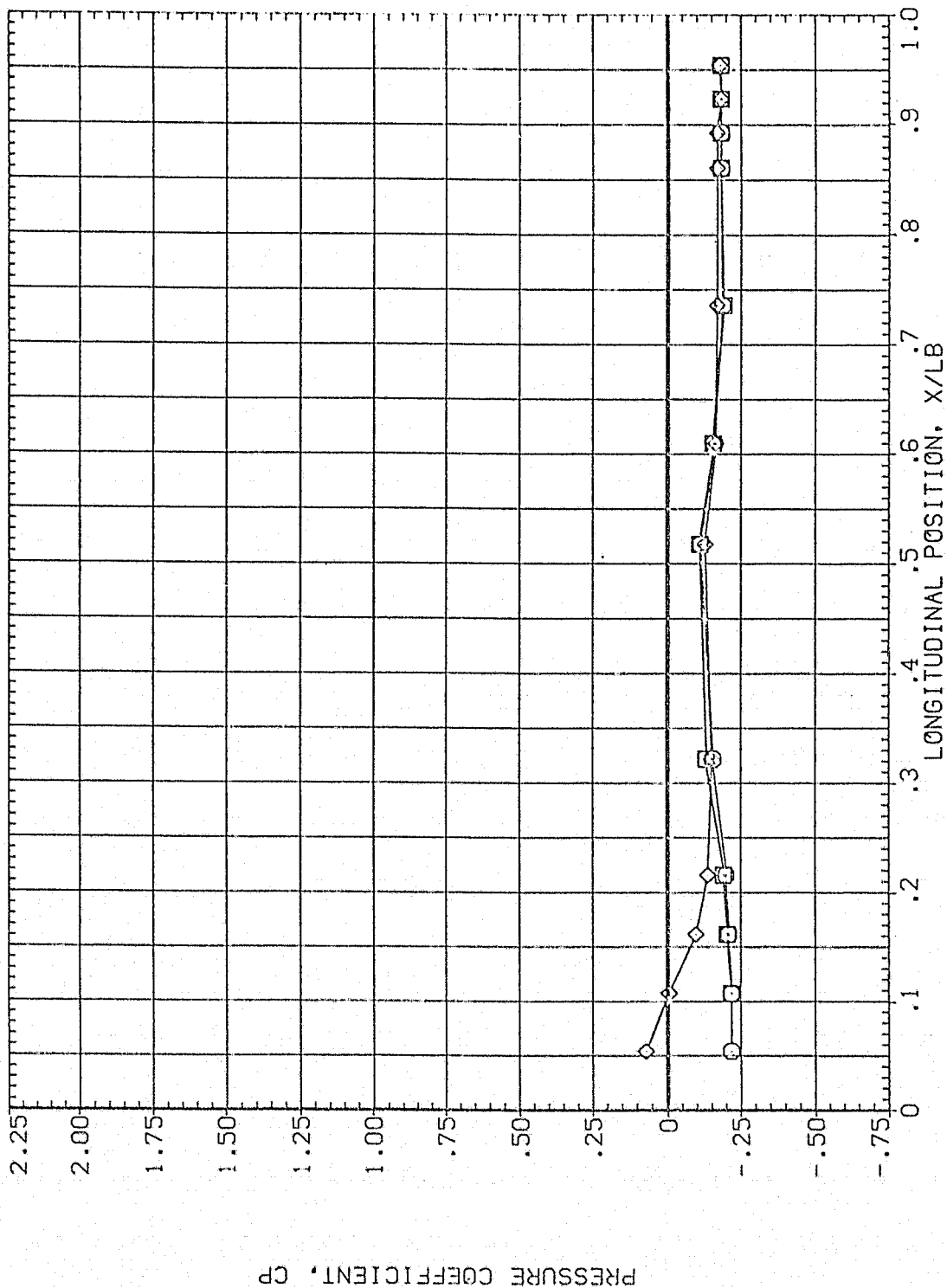


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA MOUNT	.000 OFFSET	.000 PHI
○	112.500	54.110	1.960			
□	135.000					
◇	157.500					

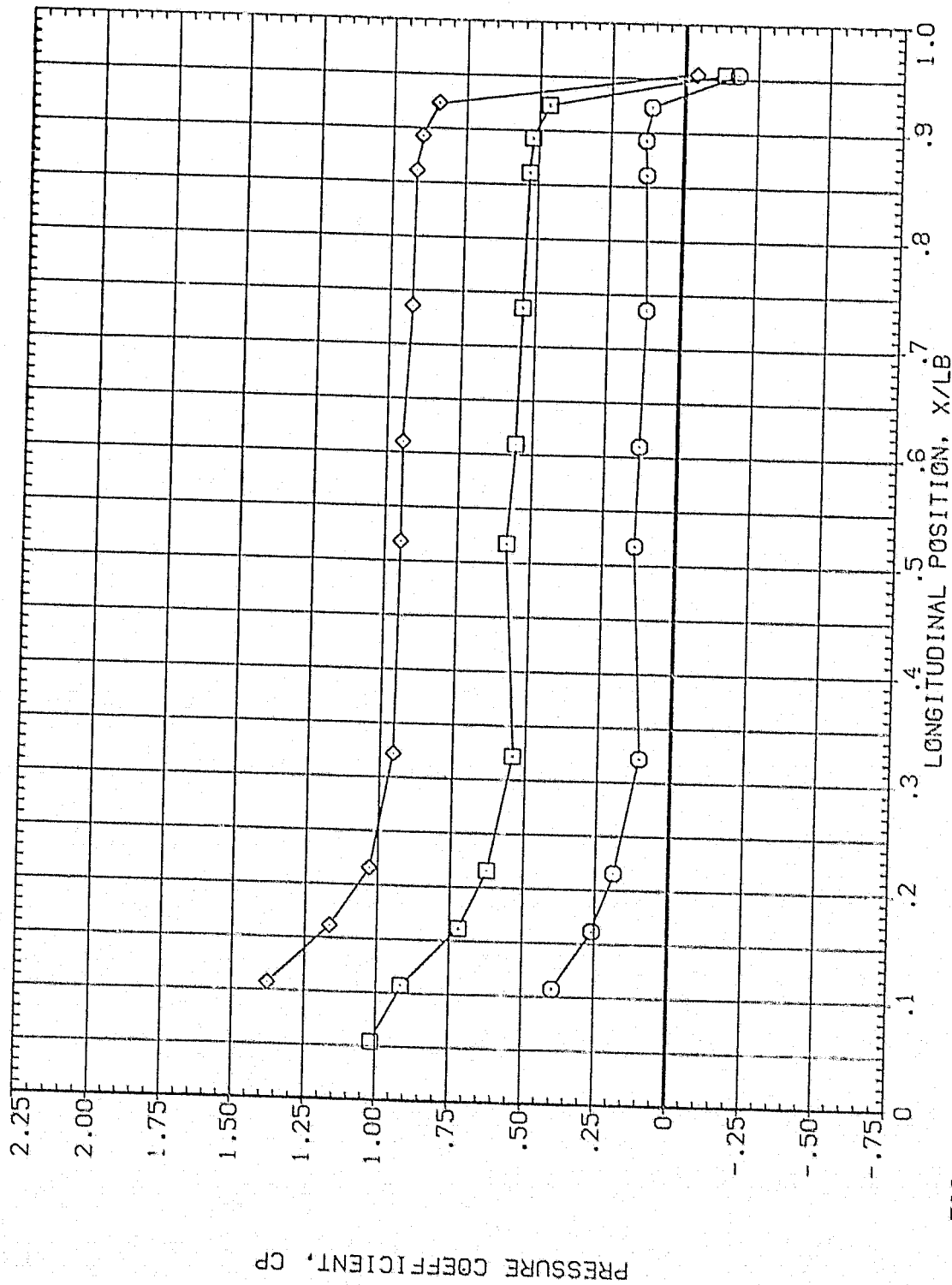


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	54.110	1.980	Mount	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				50.000

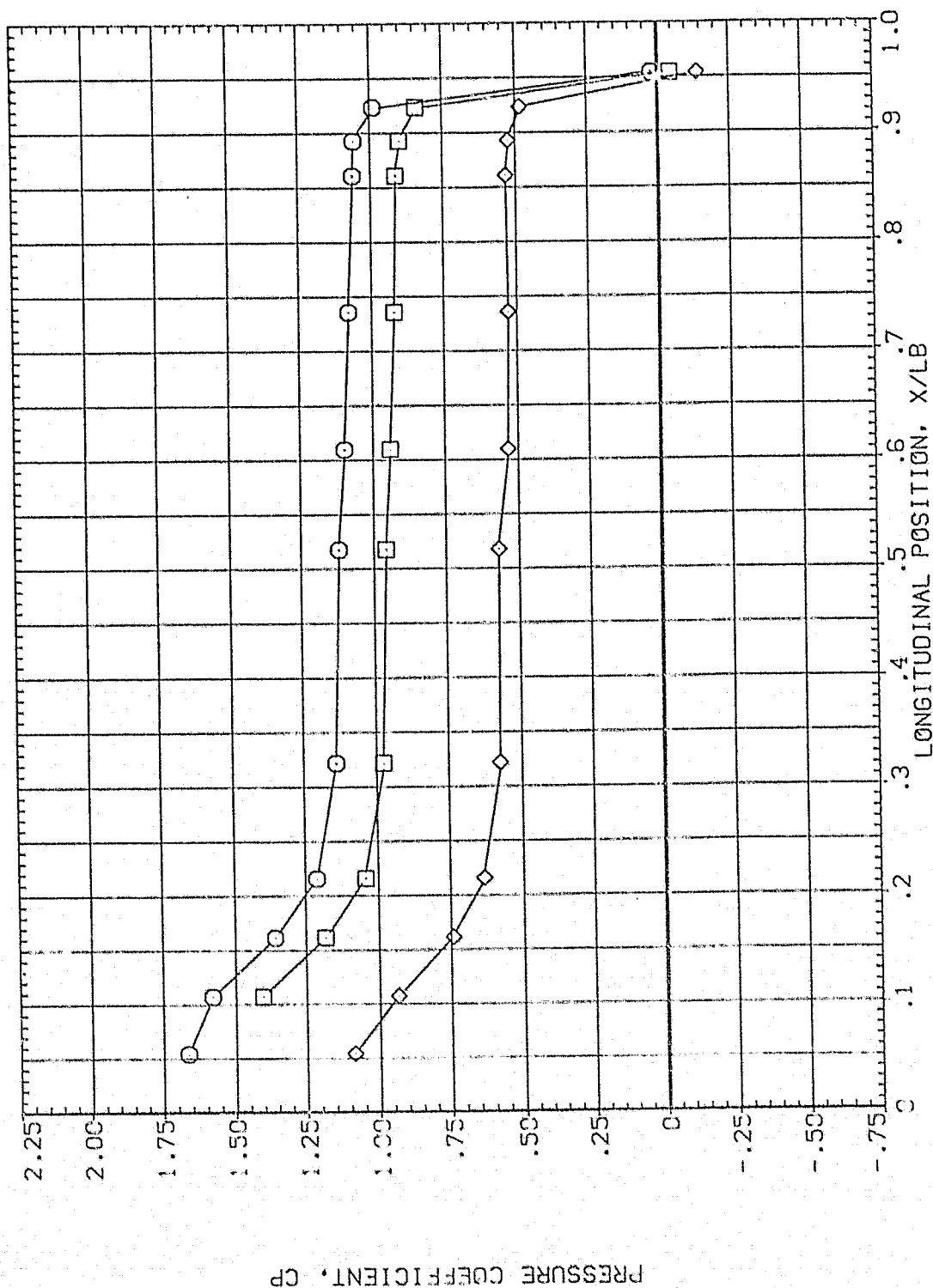


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	54.110	1.960	.000	.000	.000
□	270.000			2.000		
◇	292.500					

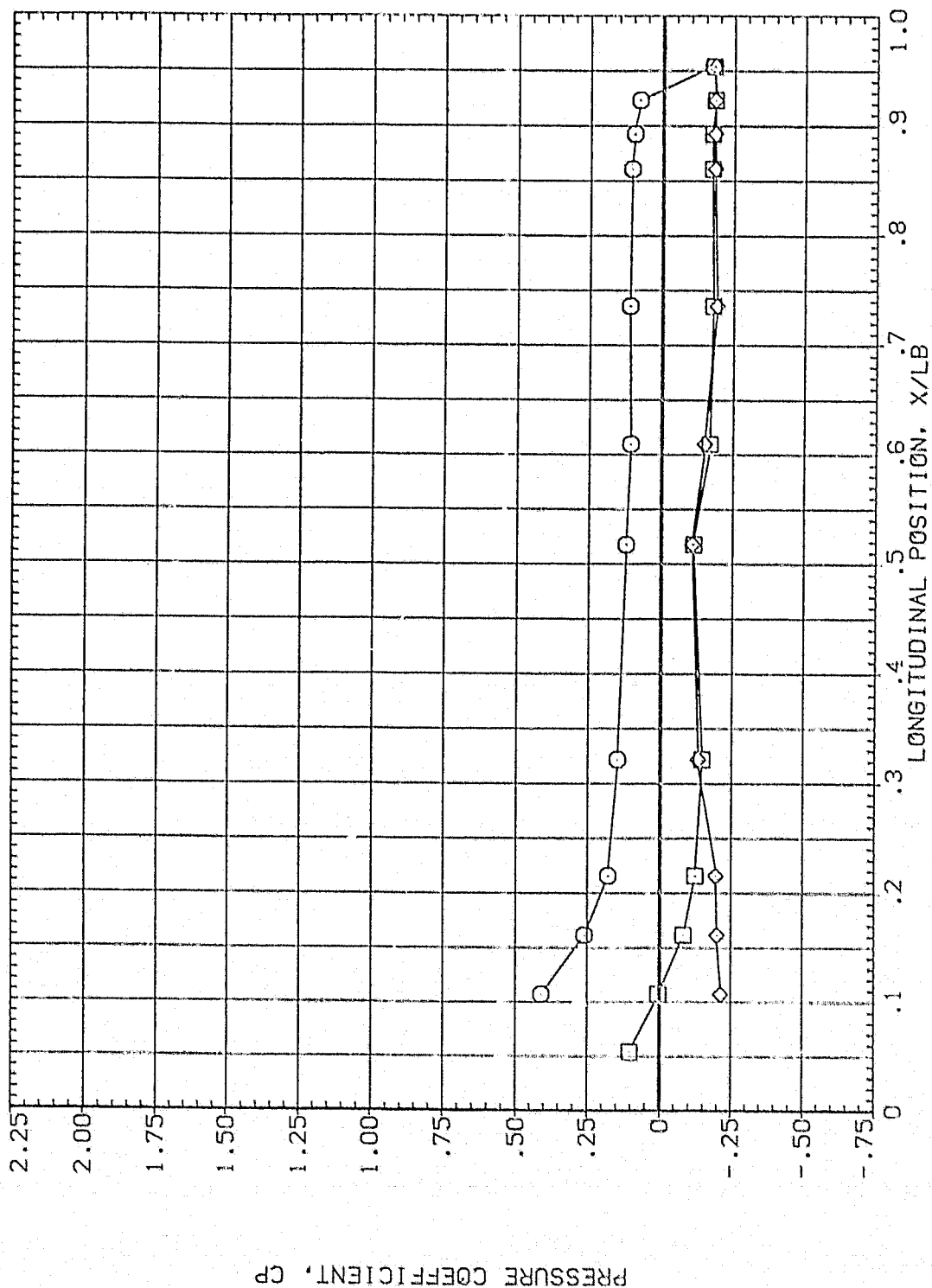


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	315.000	54.110	1.960	.000	.000	.000
□	326.000			2.000		
◇	346.000					

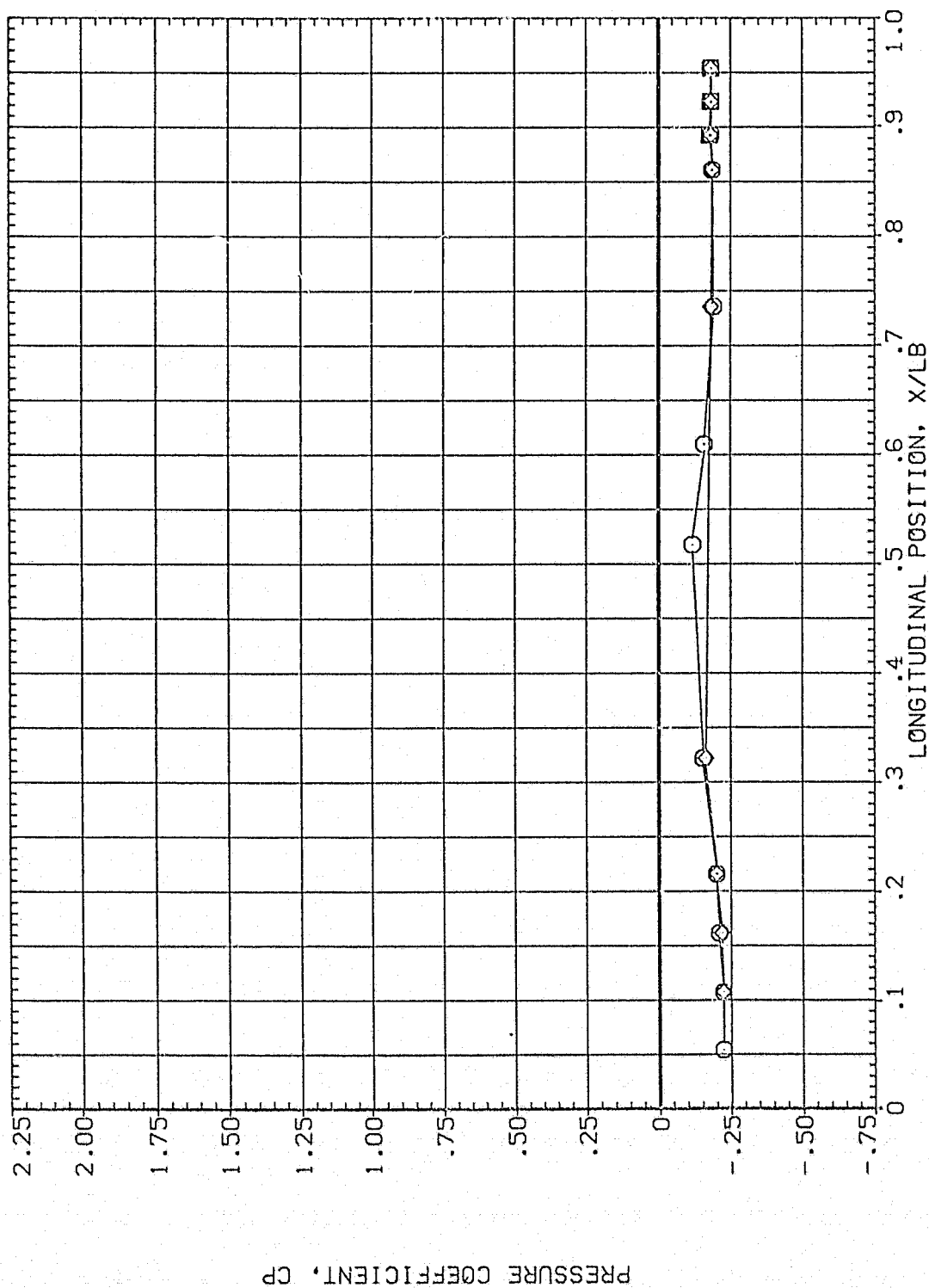


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2. (P1A063)

SYMBOL THETA ALPHA MACH  
 O .000 57.110 1.960  
 □ 14.000  
 ◇ 24.000

PARAMETRIC VALUES  
 .000 OFFSET 60.000  
 2.000 PHI .000

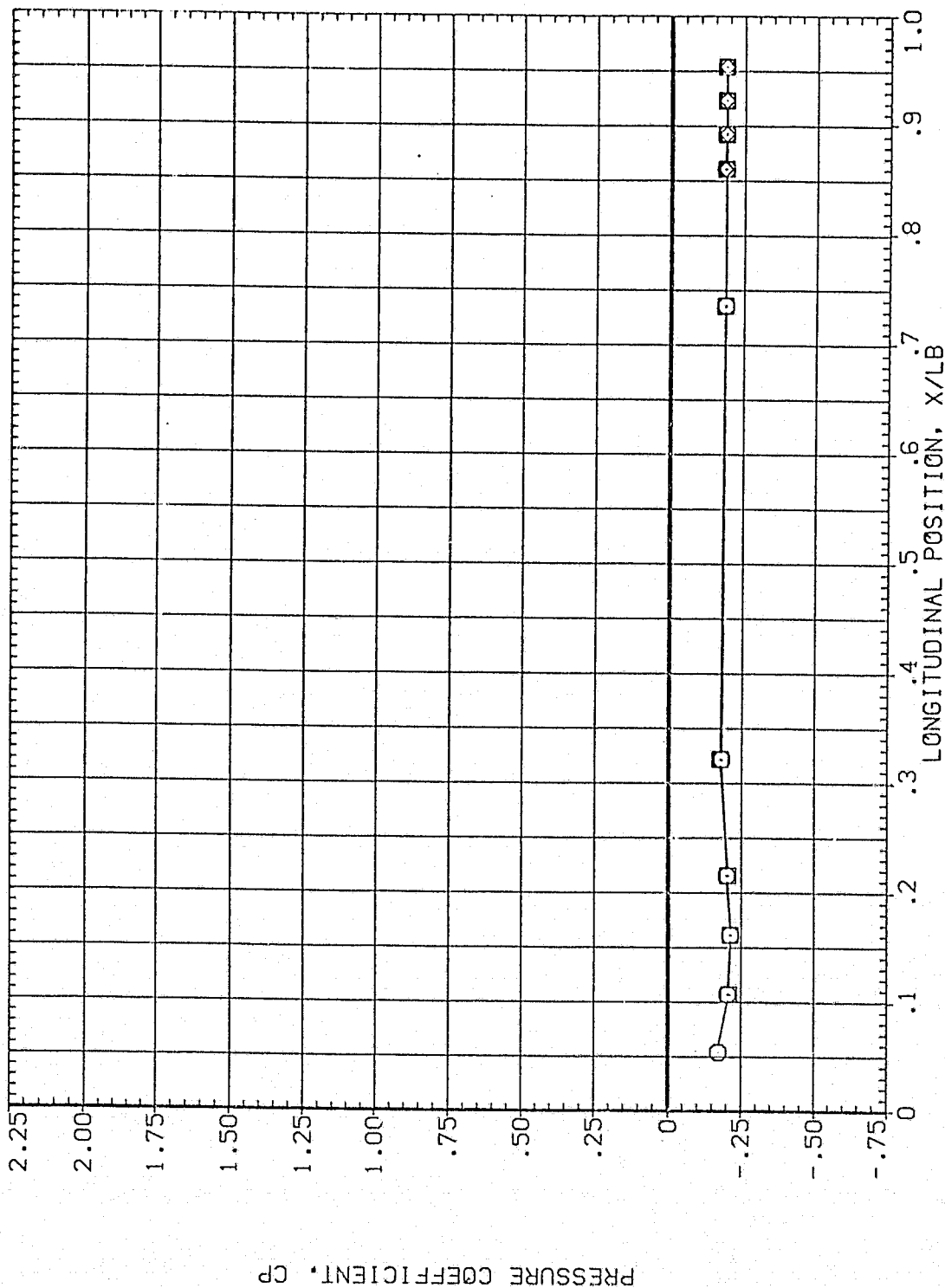


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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SYMBOL	THETA	ALPHA	HACH	BETA	PARAMETRIC VALUES
○	45.000	57.110	1.960	MOUNT	.000 OFFSET
□	67.500				2.000 PHI
◇	90.000				60.000

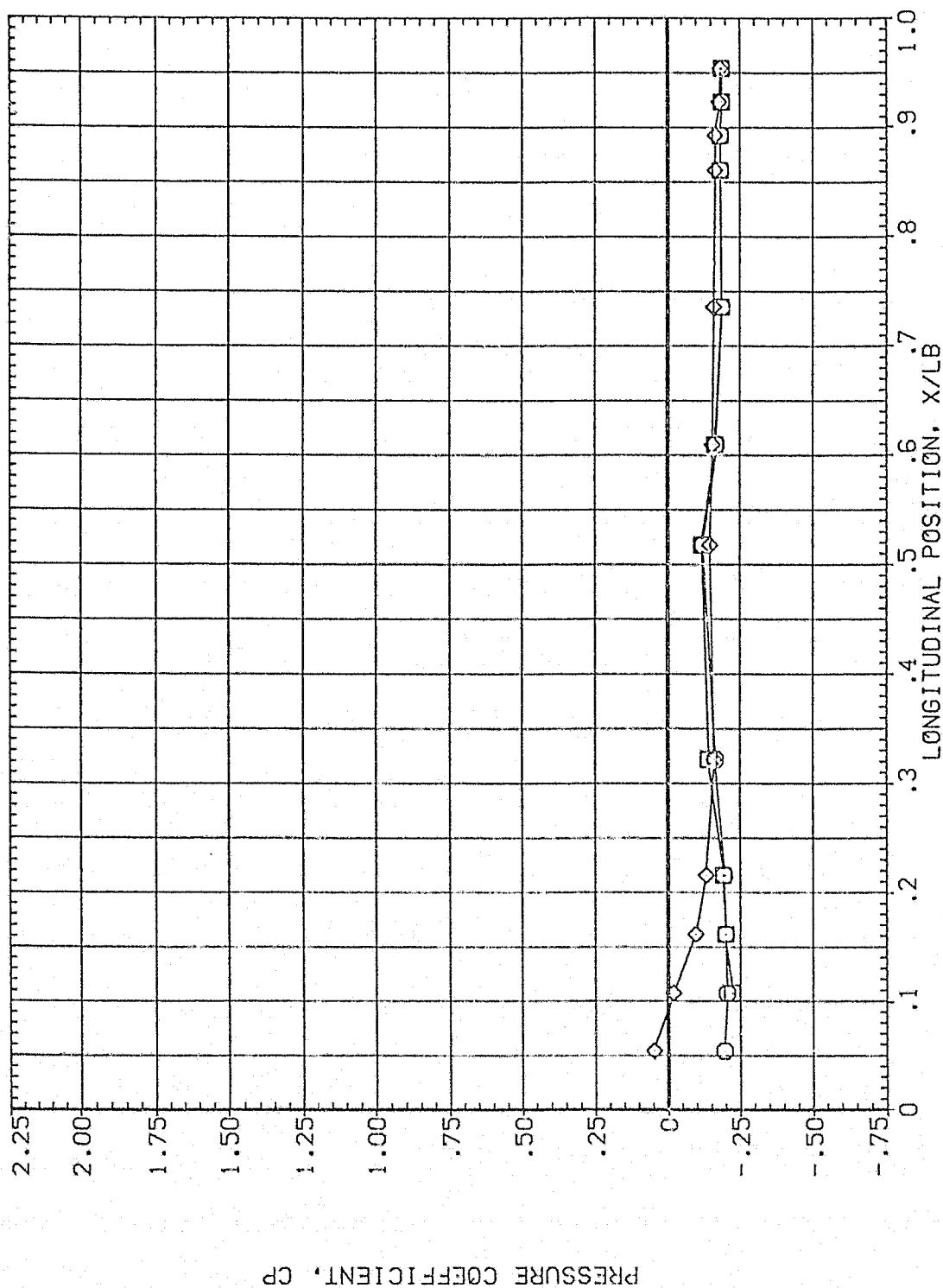


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	57.110	1.960			
□	135.000					
◇	157.500					

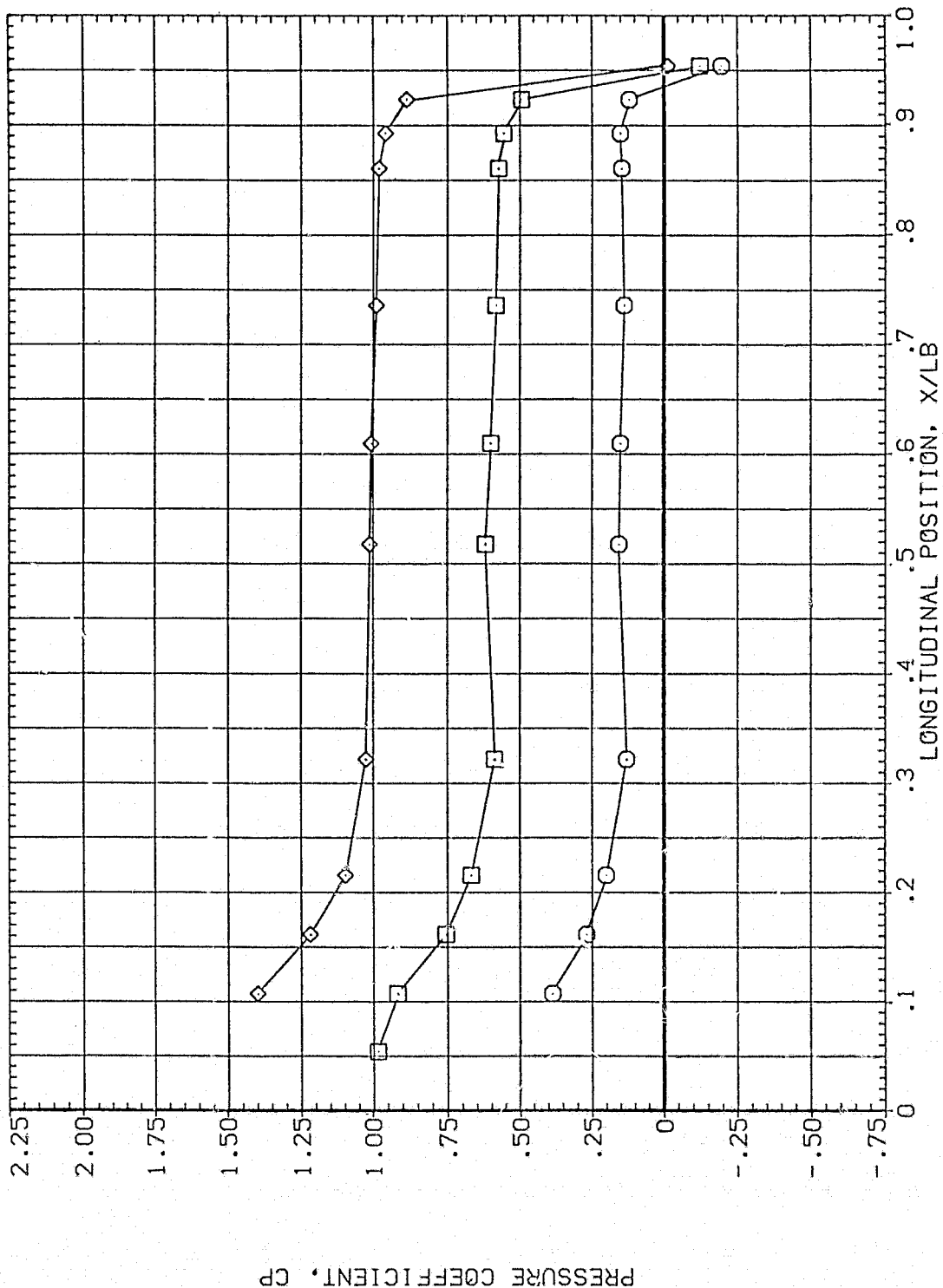


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	57.110	1.960	Mount	.000
□	202.500			Offset	2.000
◇	225.000			Phi	.000

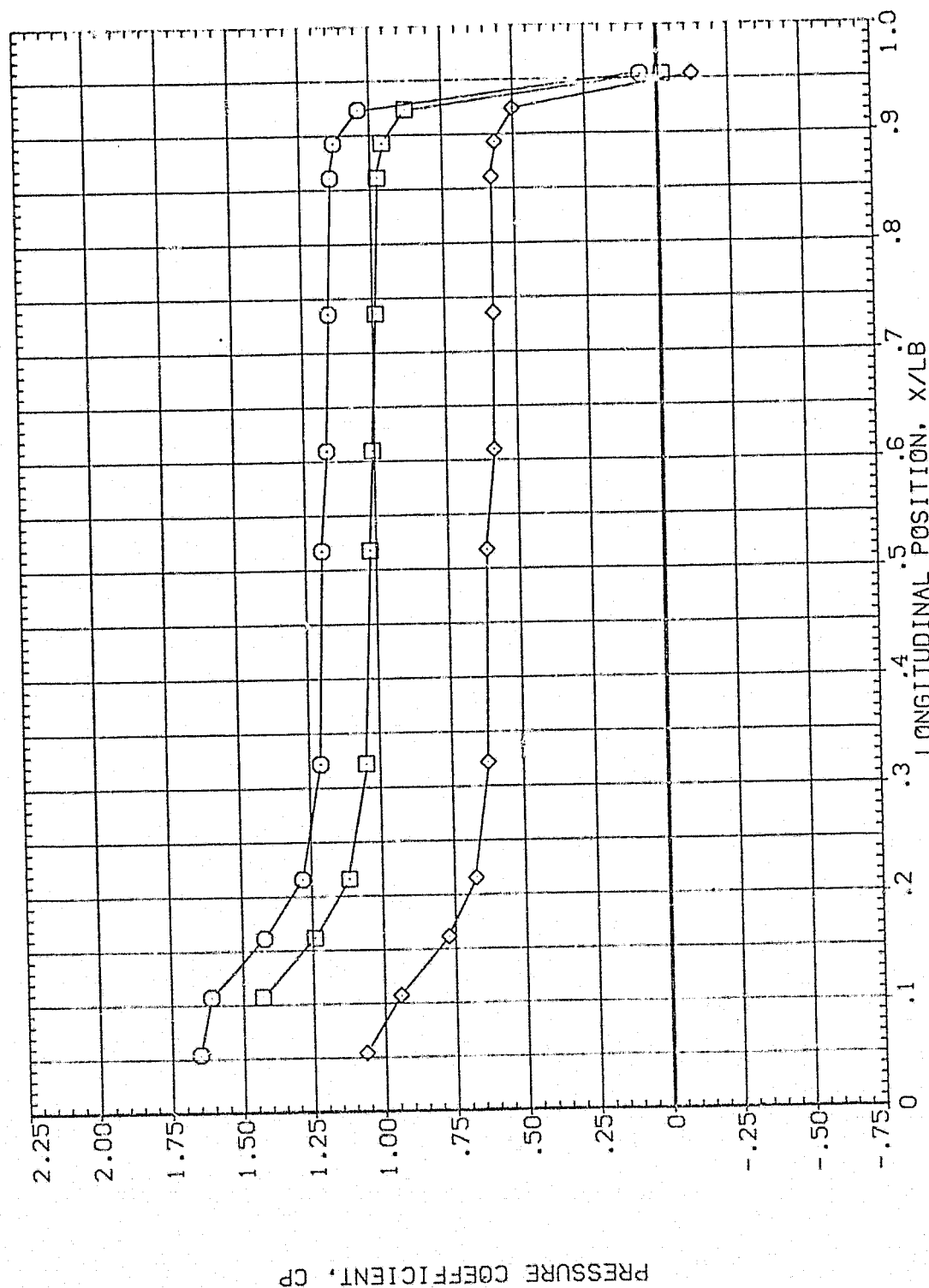


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	57.110	1.960	2.000	.000	60.000
□	270.000					.000
◇	292.500					

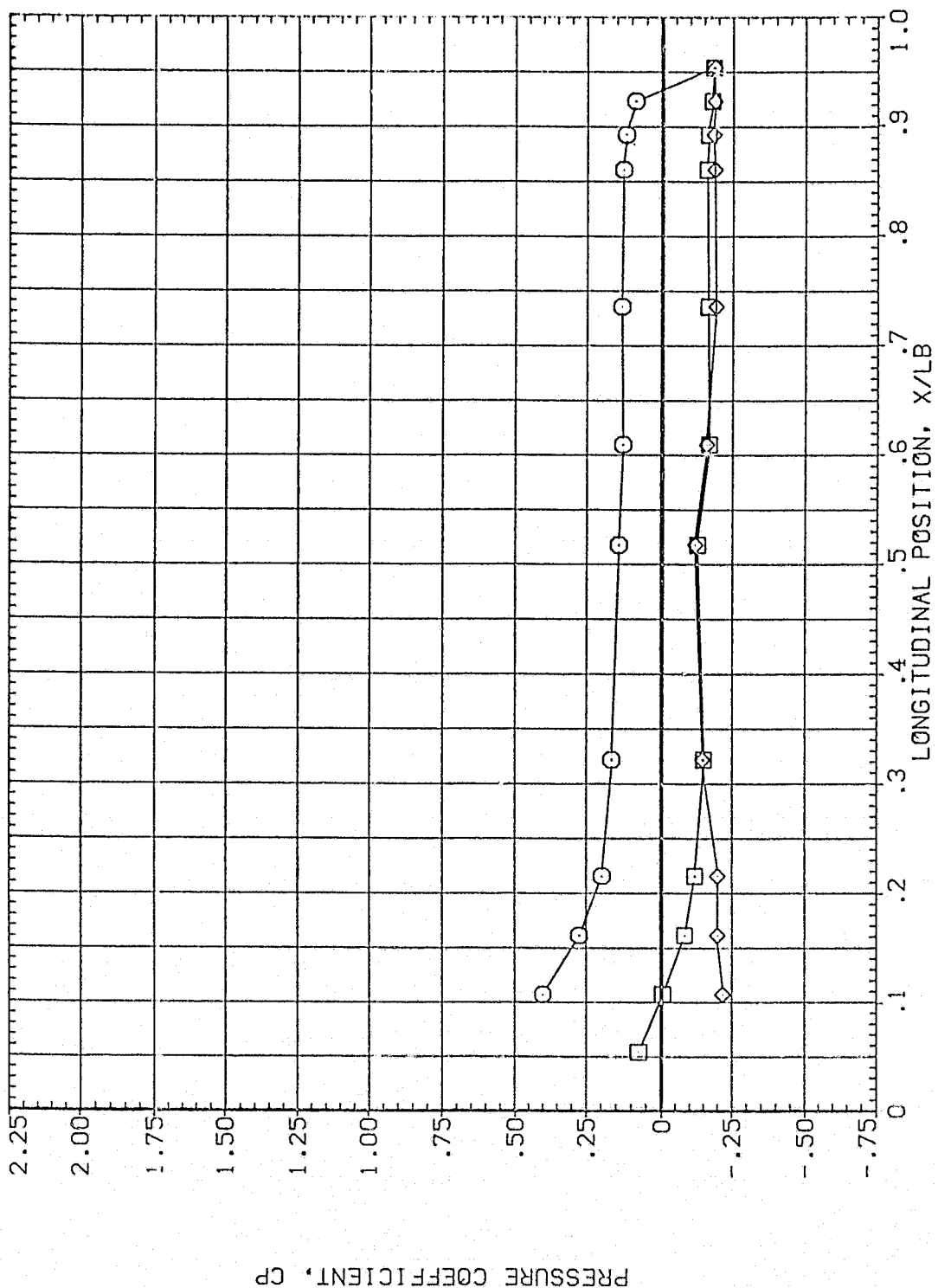


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	DESCRIPTION
	1.000000
	1.000000
	1.000000

ALPHA  
57.110

MACH 1.960

PARAMETRIC VALUES	
.000	OFFSET 60.000
2.000	PHI .000

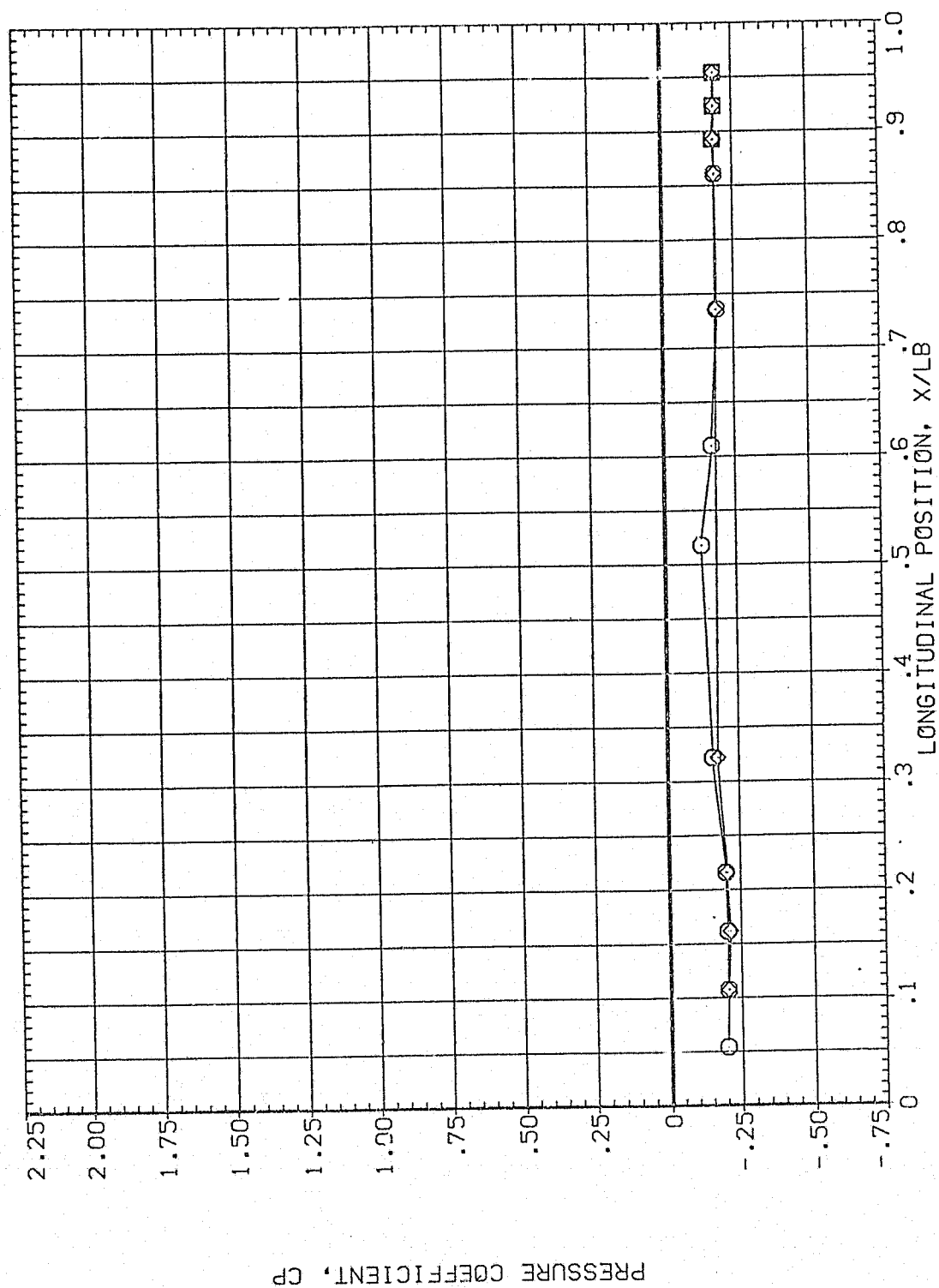


FIG. 8. PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.000	60.130	1.970	.000	.000	.000
□	14.000			2.000		
◇	24.000					

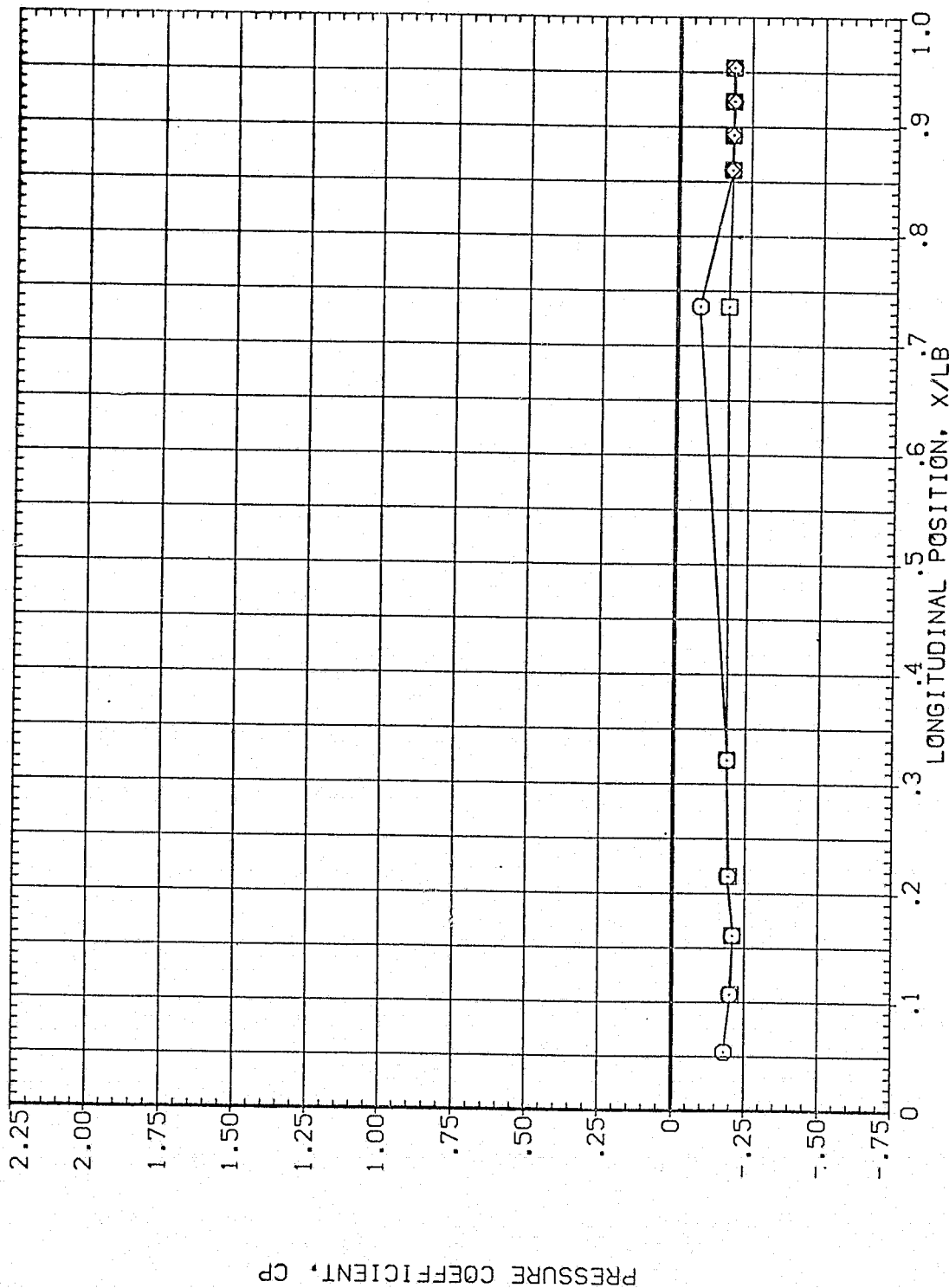


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	60.130	1.970	MOUNT	.000 OFFSET
□	67.500				2.000 PHI
◇	90.000				60.000

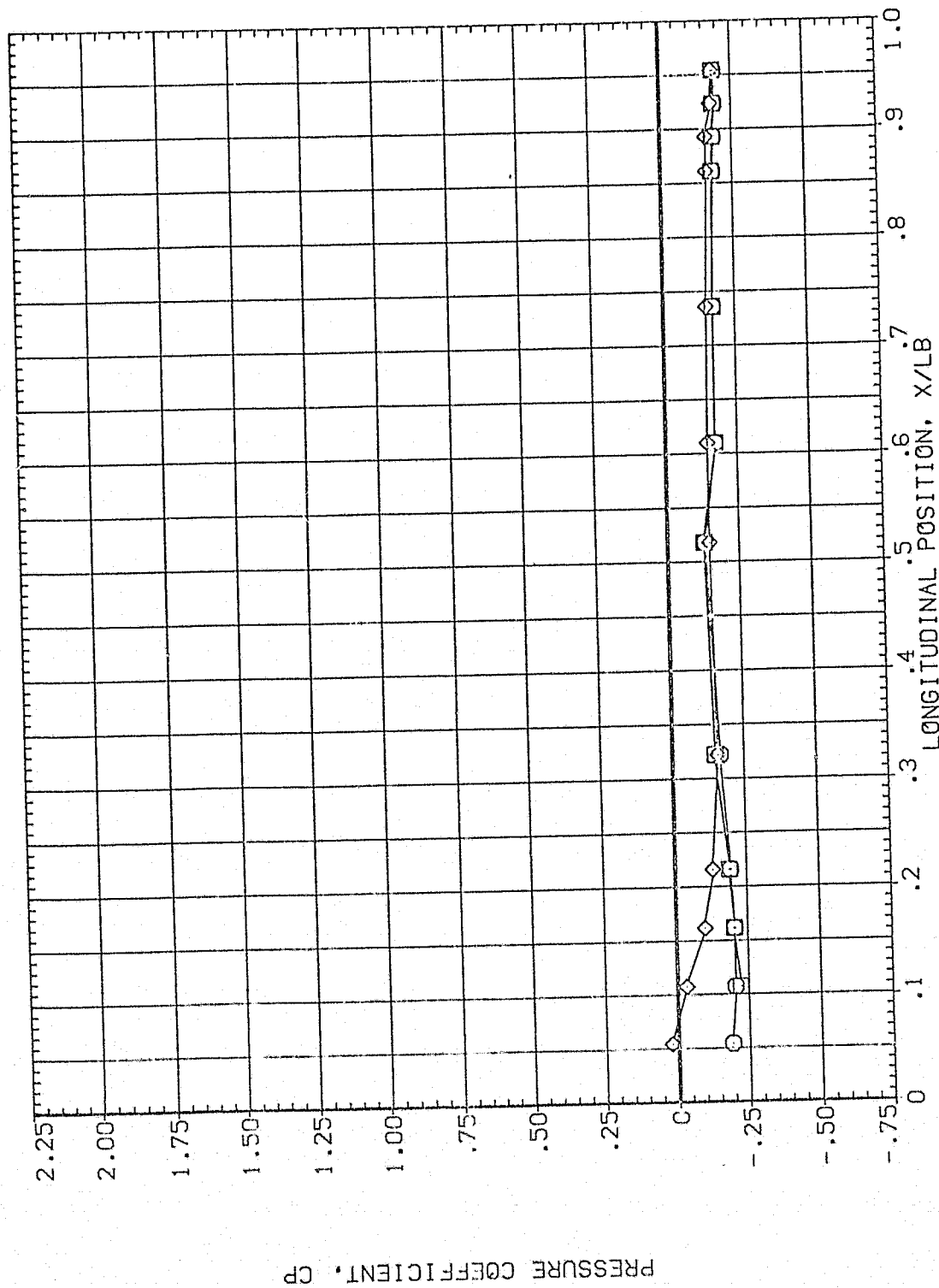


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	OFFSET	PHI	
○	112.500	60.130	1.970	MOUNT	.000	2.000	60.000
□	135.000						
◇	157.500						

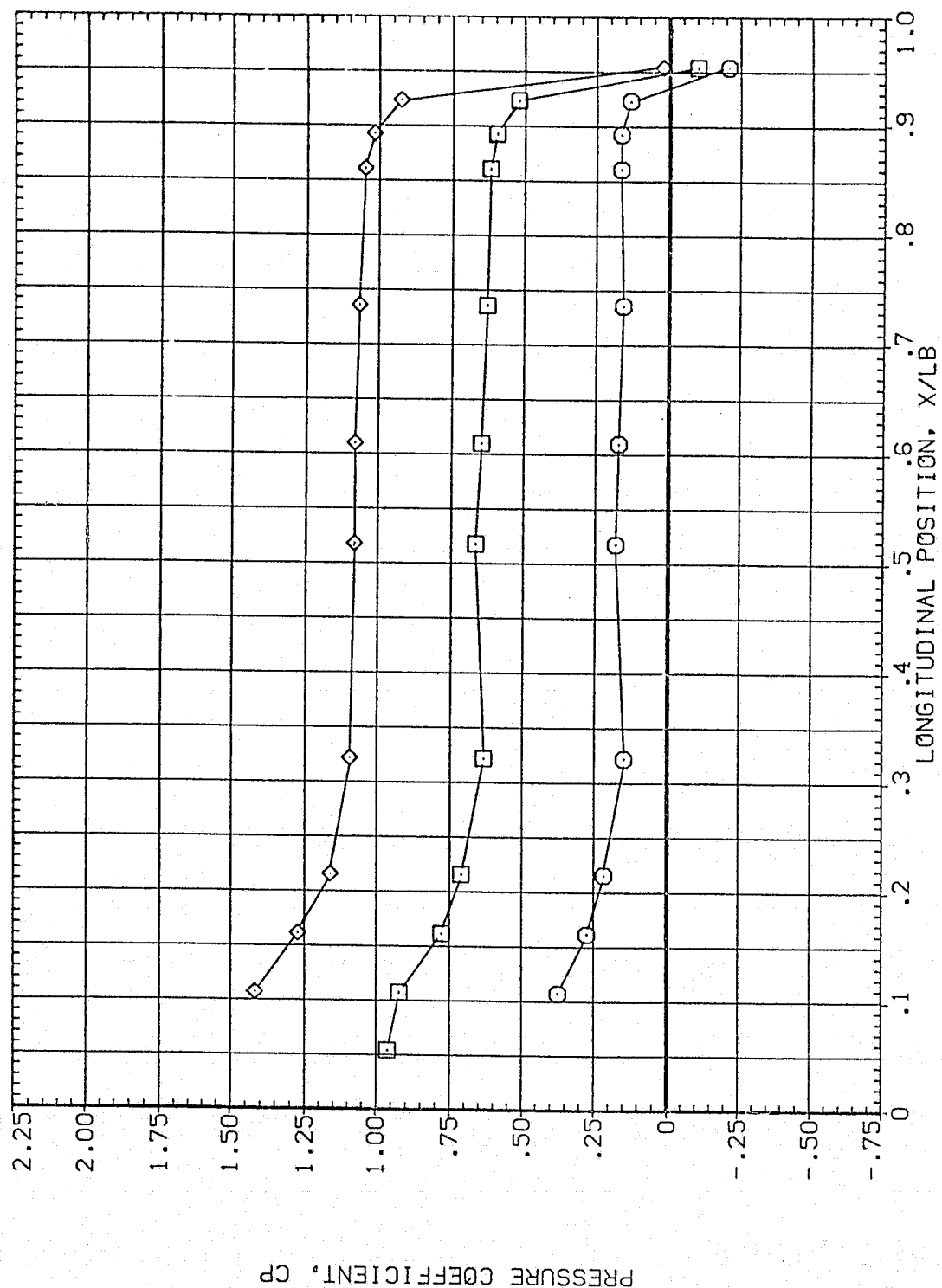


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	60.130	1.970	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				.000

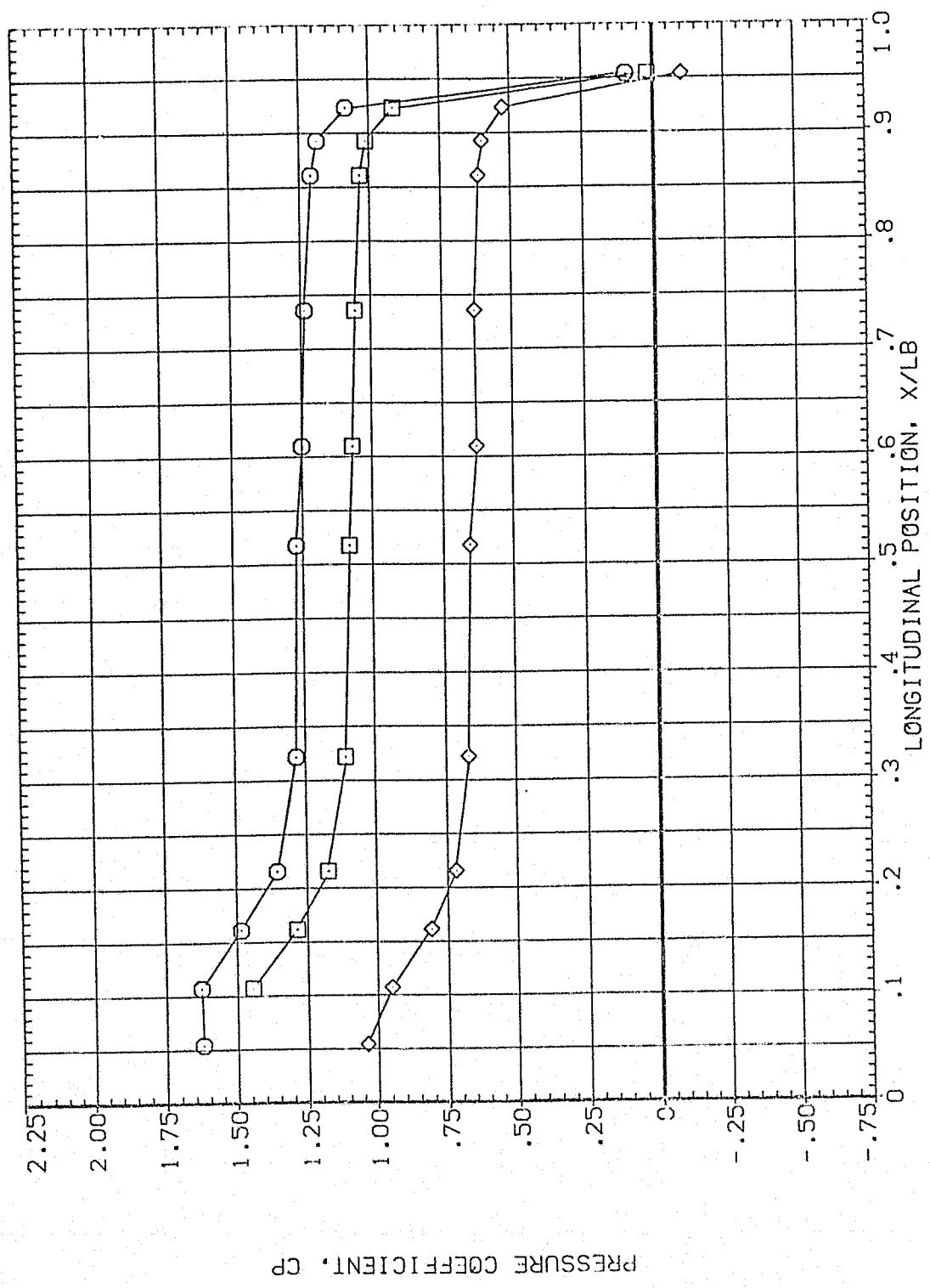


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	60.130	1.970	.000	.000	.000
□	270.000			2.000		
◇	292.500					

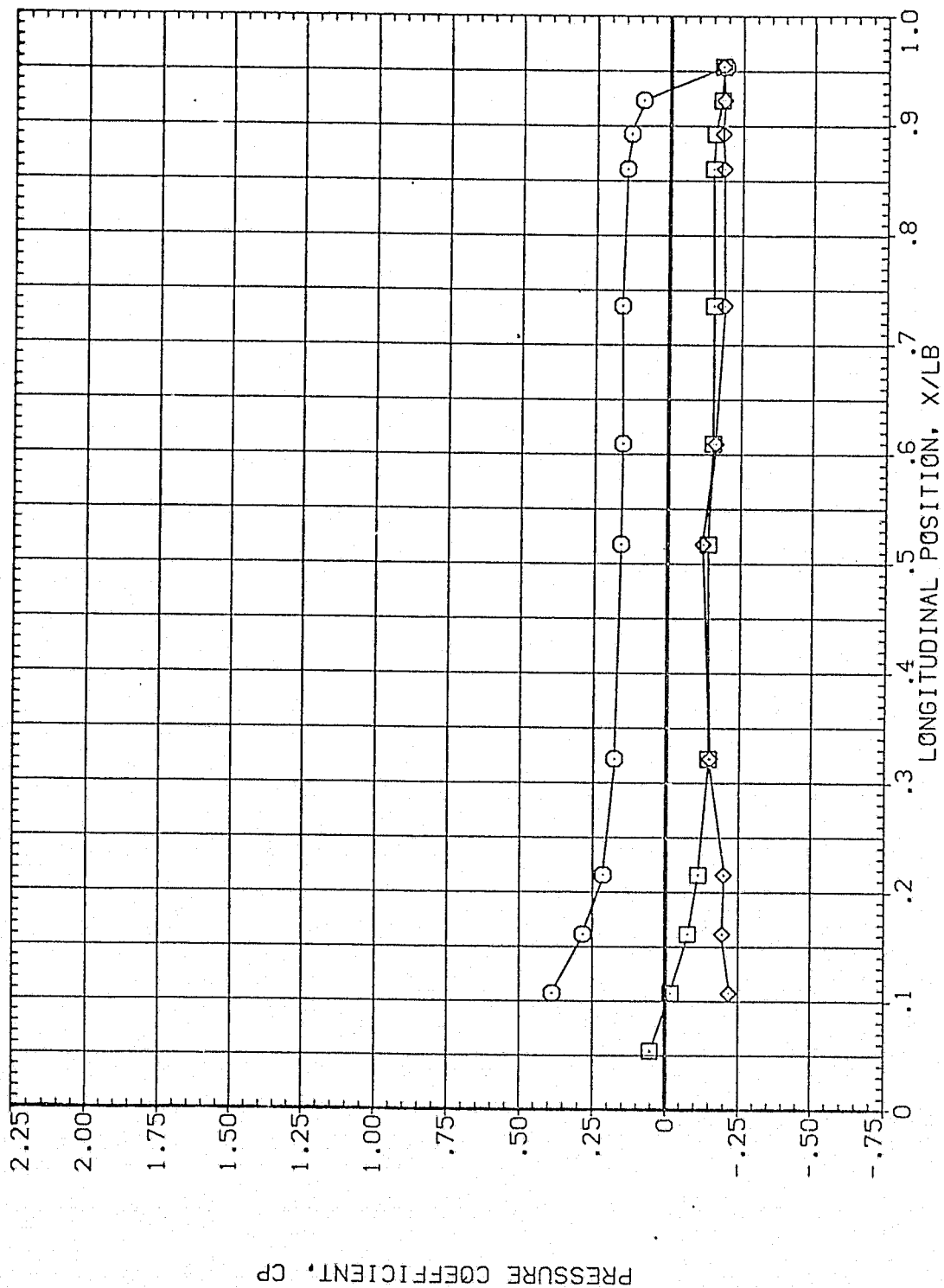


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
○	315.000	60.130	1.970	MOUNT	.000	OFFSET	60.000
□	326.000				2.000	PHI	.000
◇	346.000						

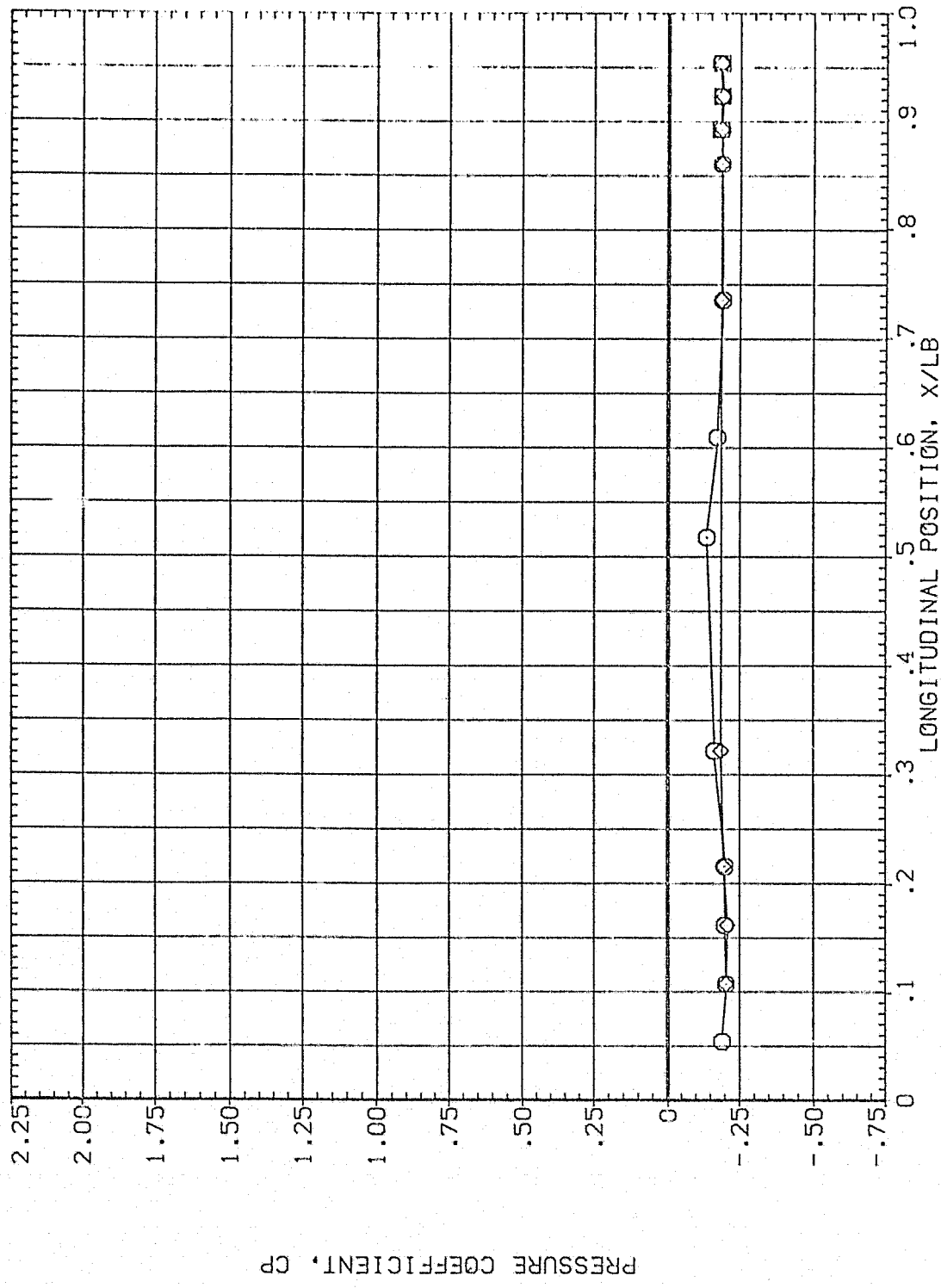


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA065)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	○	.000	63.130	1.960			BETA	.000	OFFSET	60.000
□		14.000					MOUNT	2.000	PHI	.000
◇		24.000								

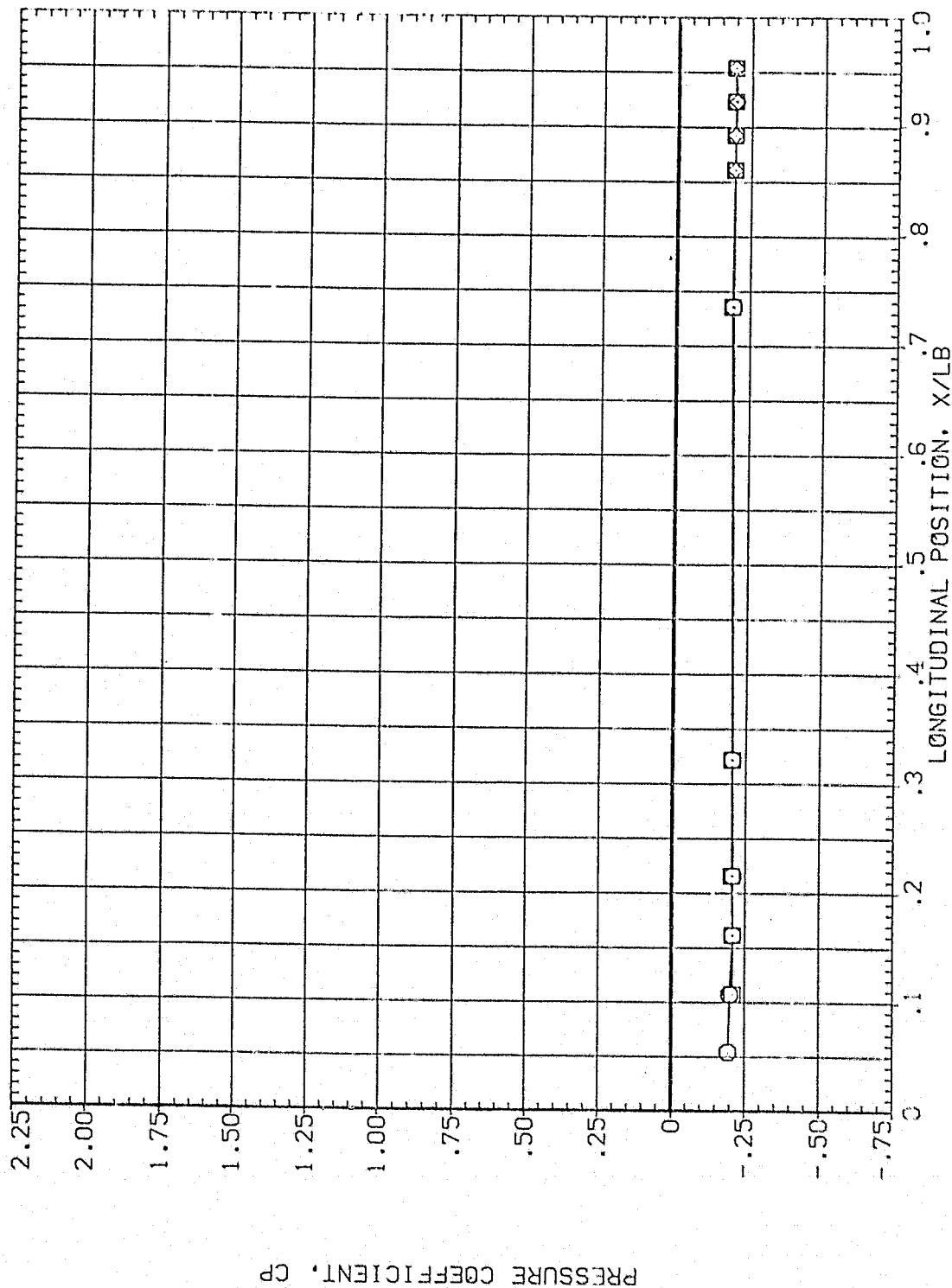


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	PARAMETRIC VALUES		
	THETA	ALPHA	HACH
◇	45.000	63.130	1.960
□	67.500		
○	90.000		
		BETA	OFFSET
		MMOUNT	PHI
			60.000
			.000

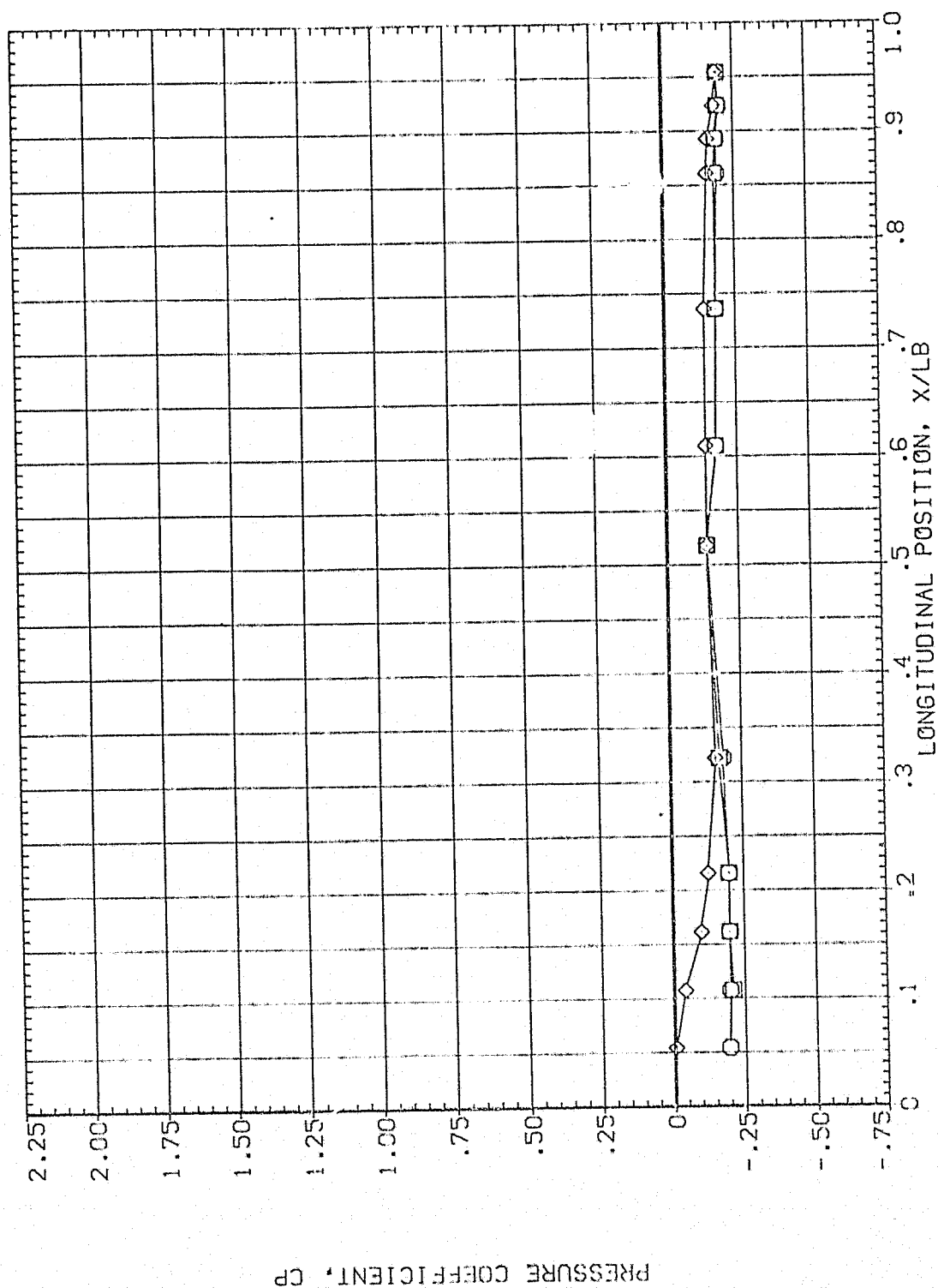


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA065)

PARAMETRIC VALUES  
 .000 OFFSET 60.000  
 2.000 PHI .000

BETA  
 MOUNT

ALPHA 63.130  
 MACH 1.960

THETA  
 112.500  
 135.000  
 157.500

SYMBOL  
 ◇  
 □  
 ○

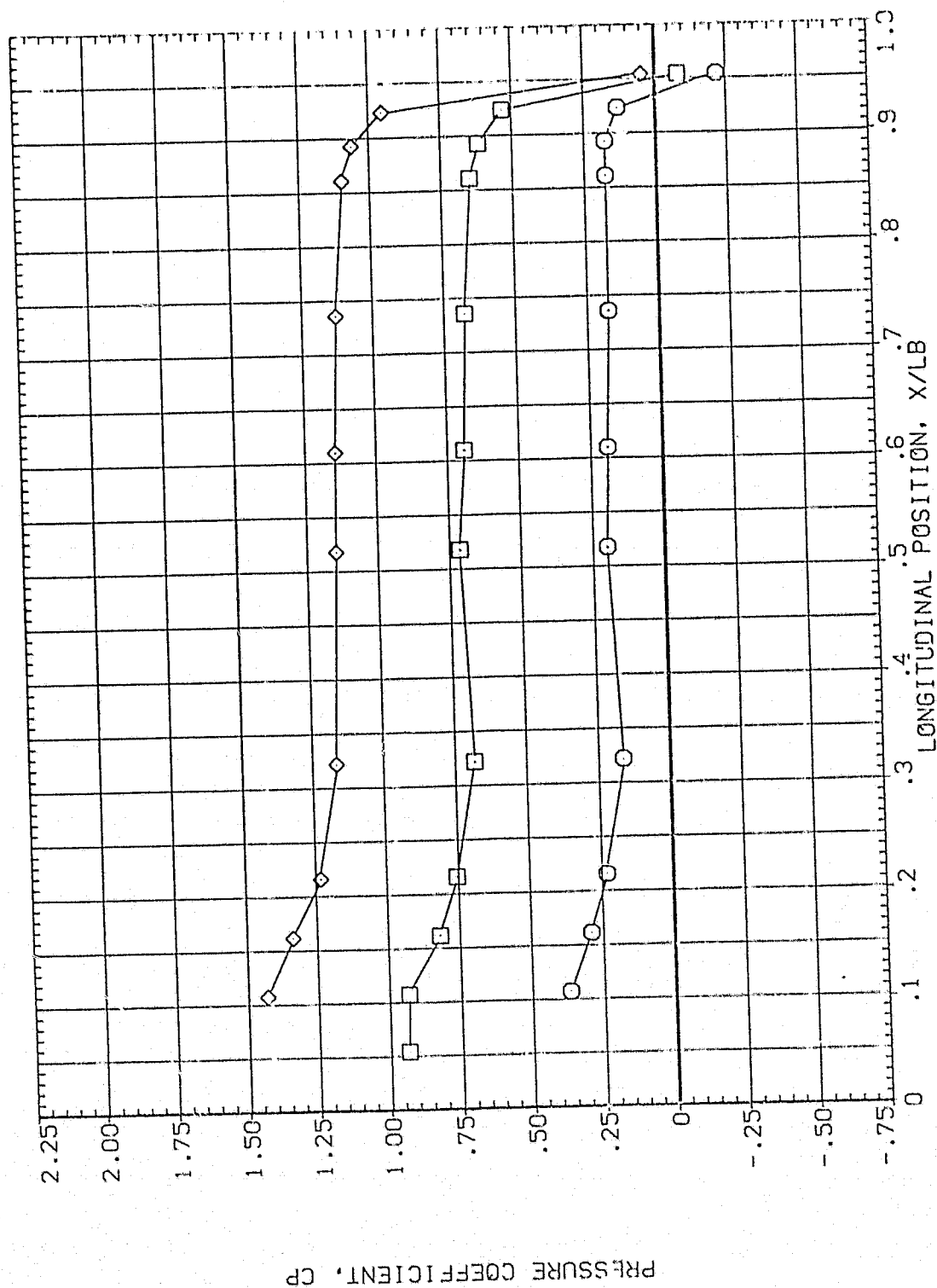


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL THETA ALPHA MACH  
 ○ 180.000 63.130 1.960  
 □ 202.500  
 ◇ 225.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI .000

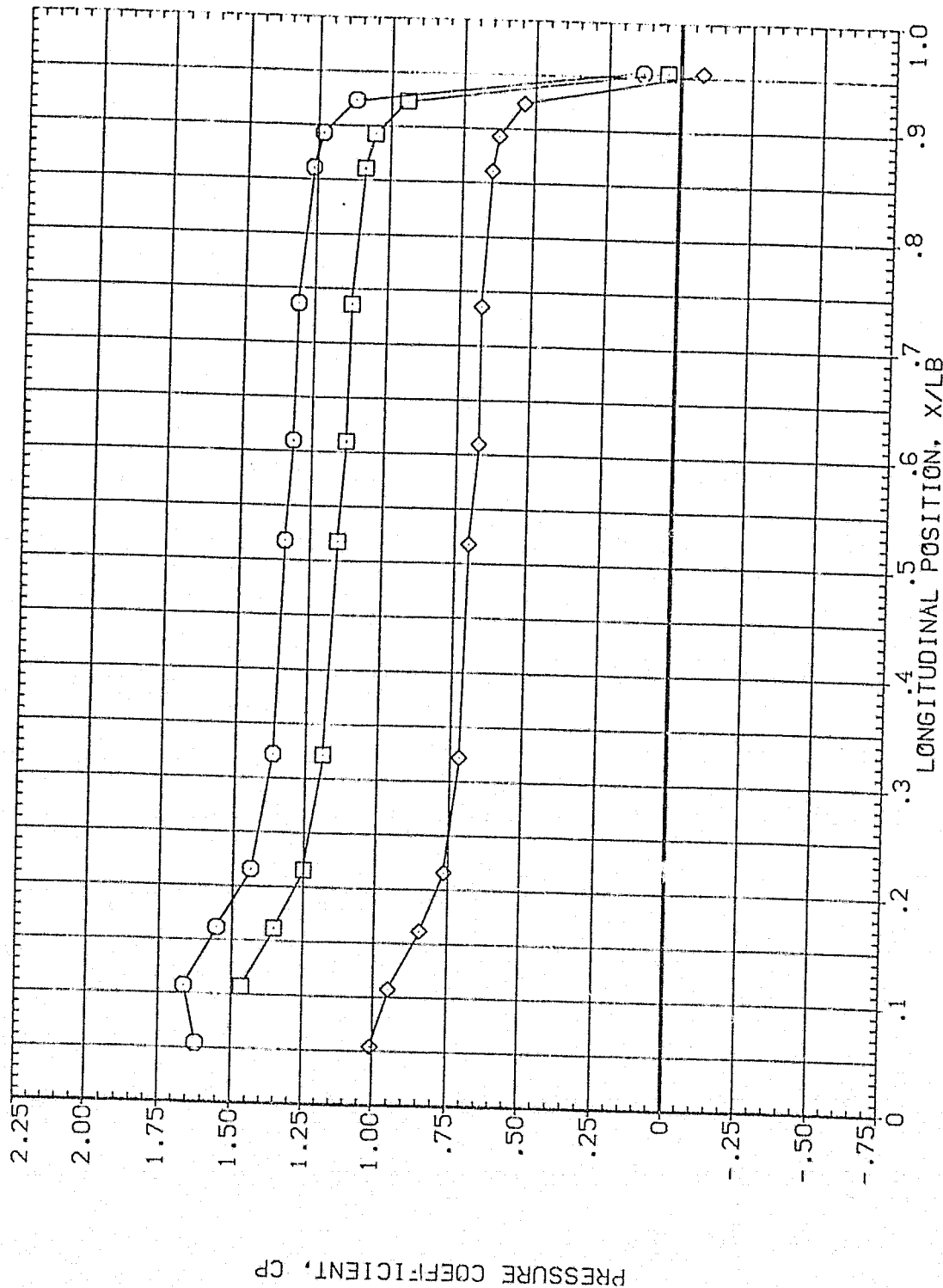


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL THETA ALPHA MACH  
 ○ 247.500 63.130 1.960  
 □ 270.000  
 ◇ 292.500

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 60.000  
 .000

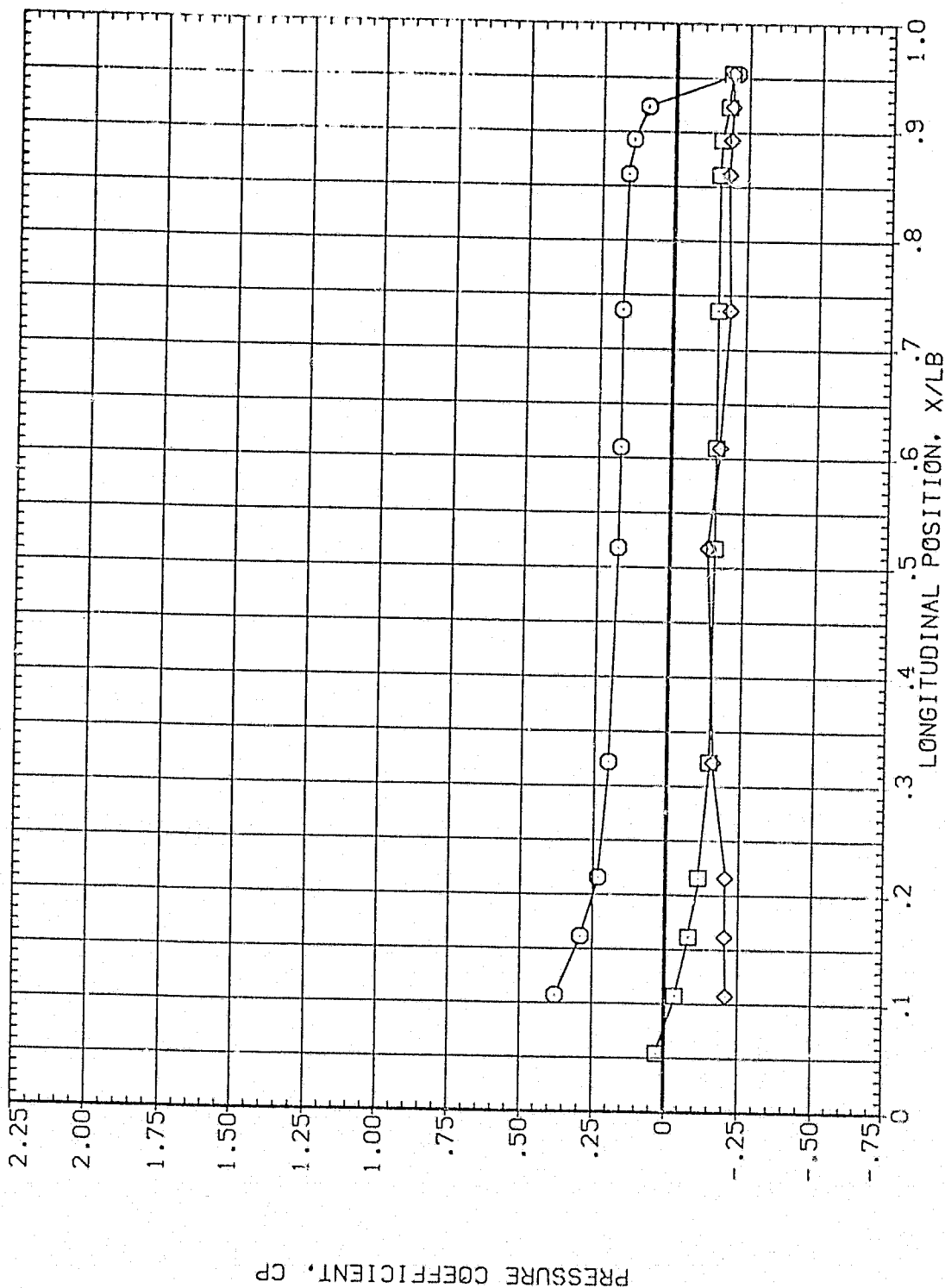


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
 BETA .000  
 COUNT 2.000  
 OFFSET PHI .000

THETA ALPHA MACH  
 315.000 63.130 1.960

SYMBOL  
 O  
 □  
 ◇

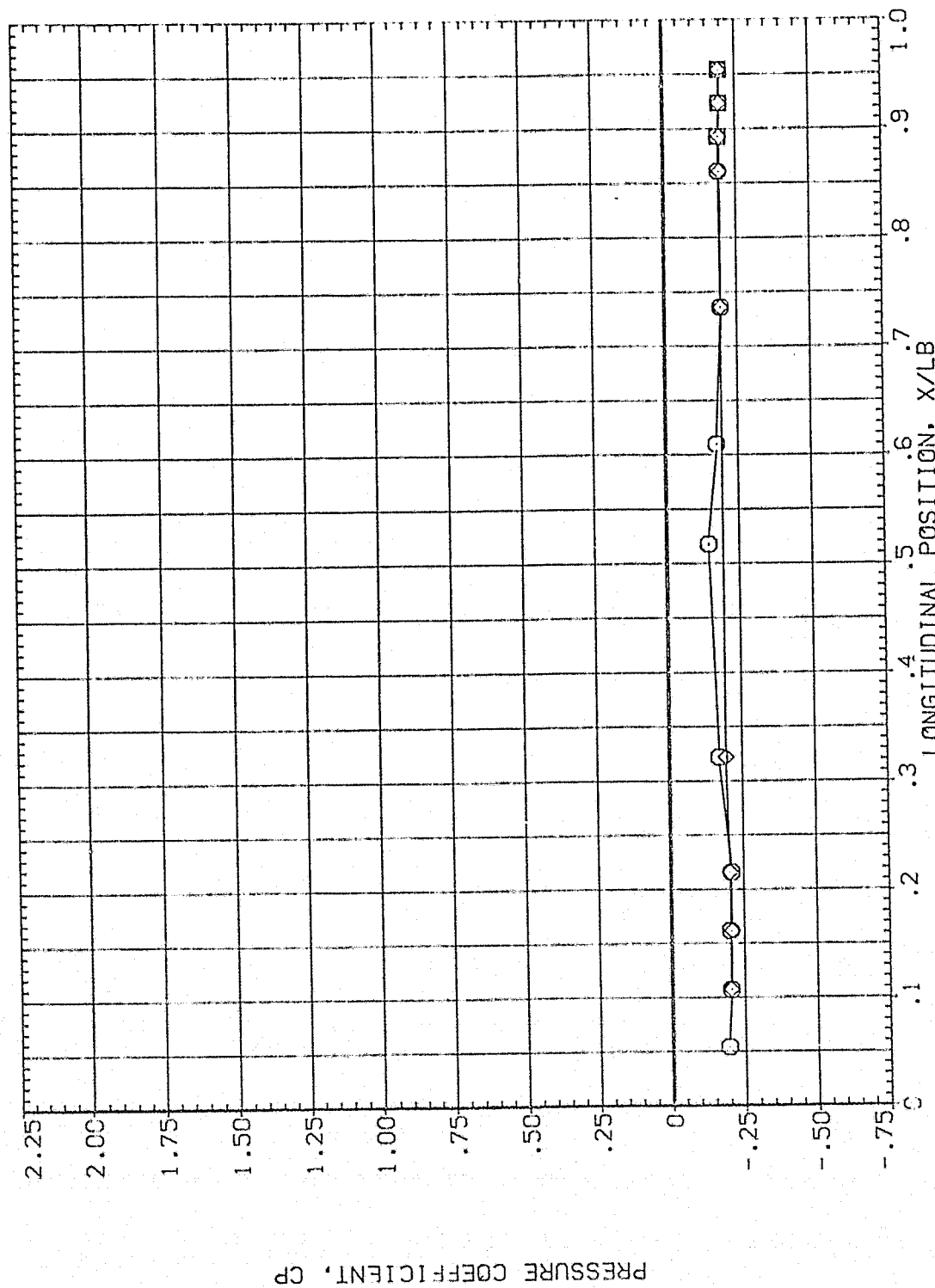


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL THETA ALPHA MACH  
 O .000 66.130 1.970  
 □ 14.000  
 ◇ 24.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 PHI 60.000  
 .000

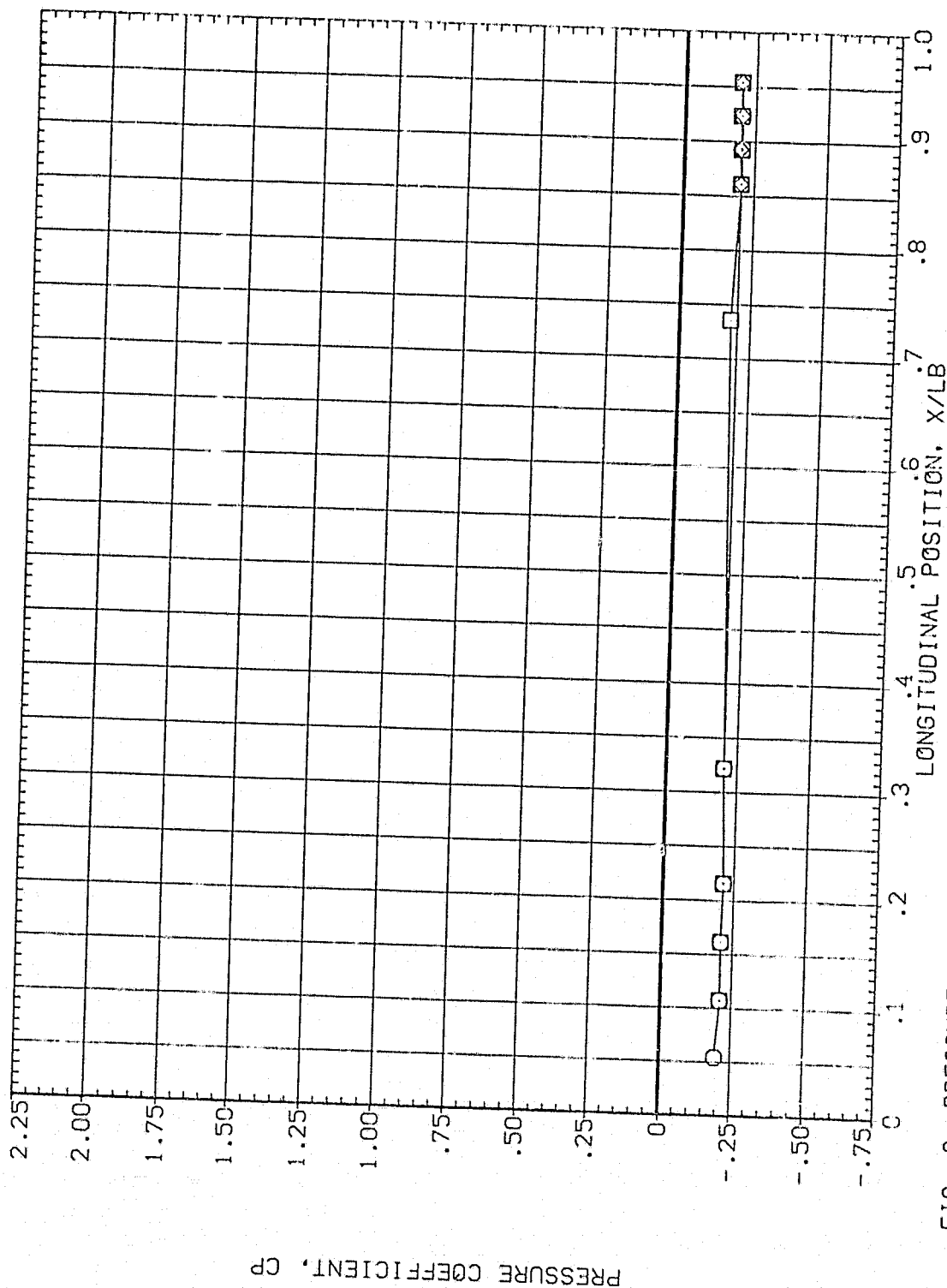


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	66.130	1.970	MOUNT	.000 OFFSET
□	67.500				2.000 PHI
◇	90.000				60.000

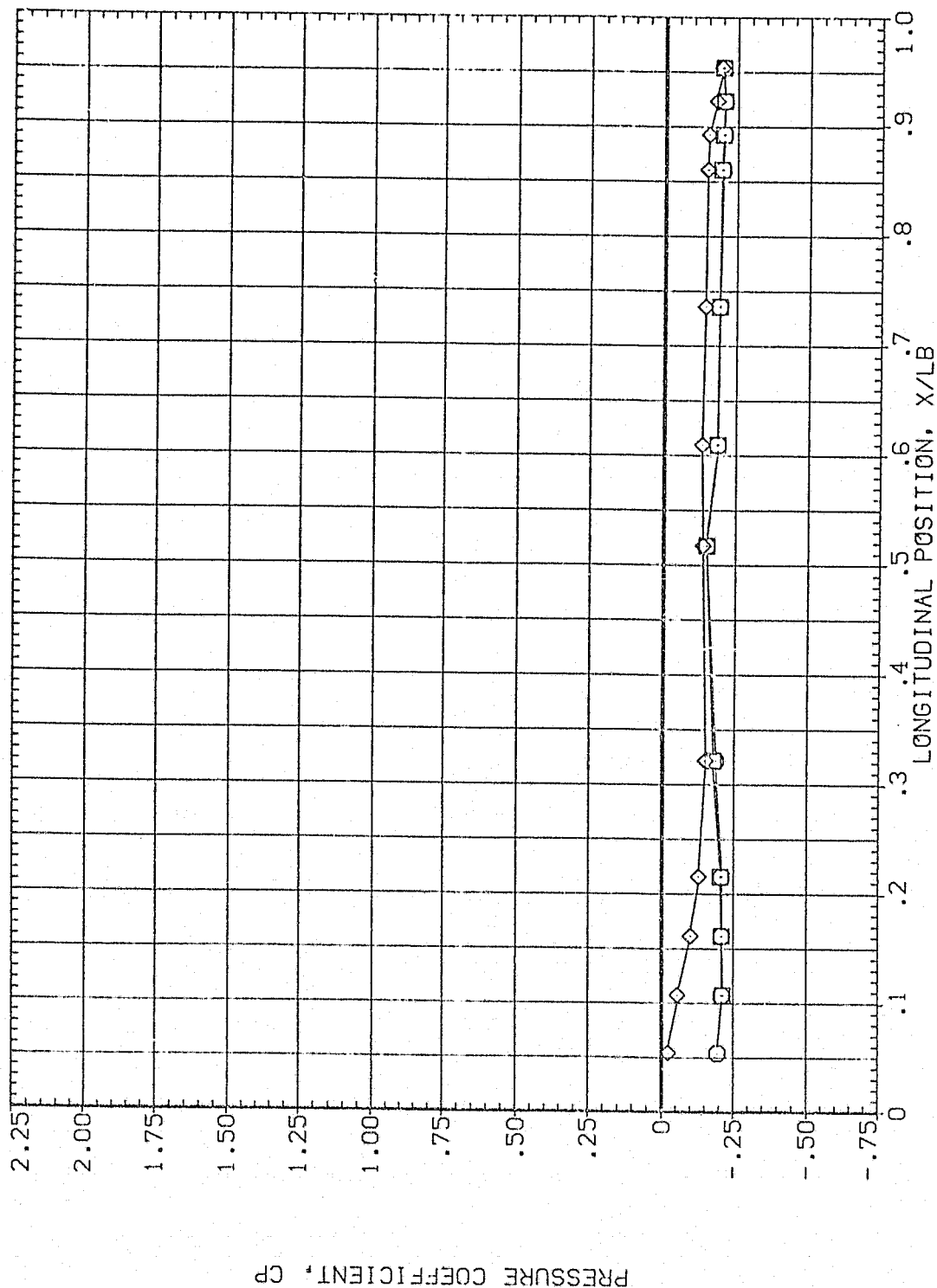


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	66.130	1.970	MOUNT	2.000	60.000
□	135.000					.000
◇	157.500					

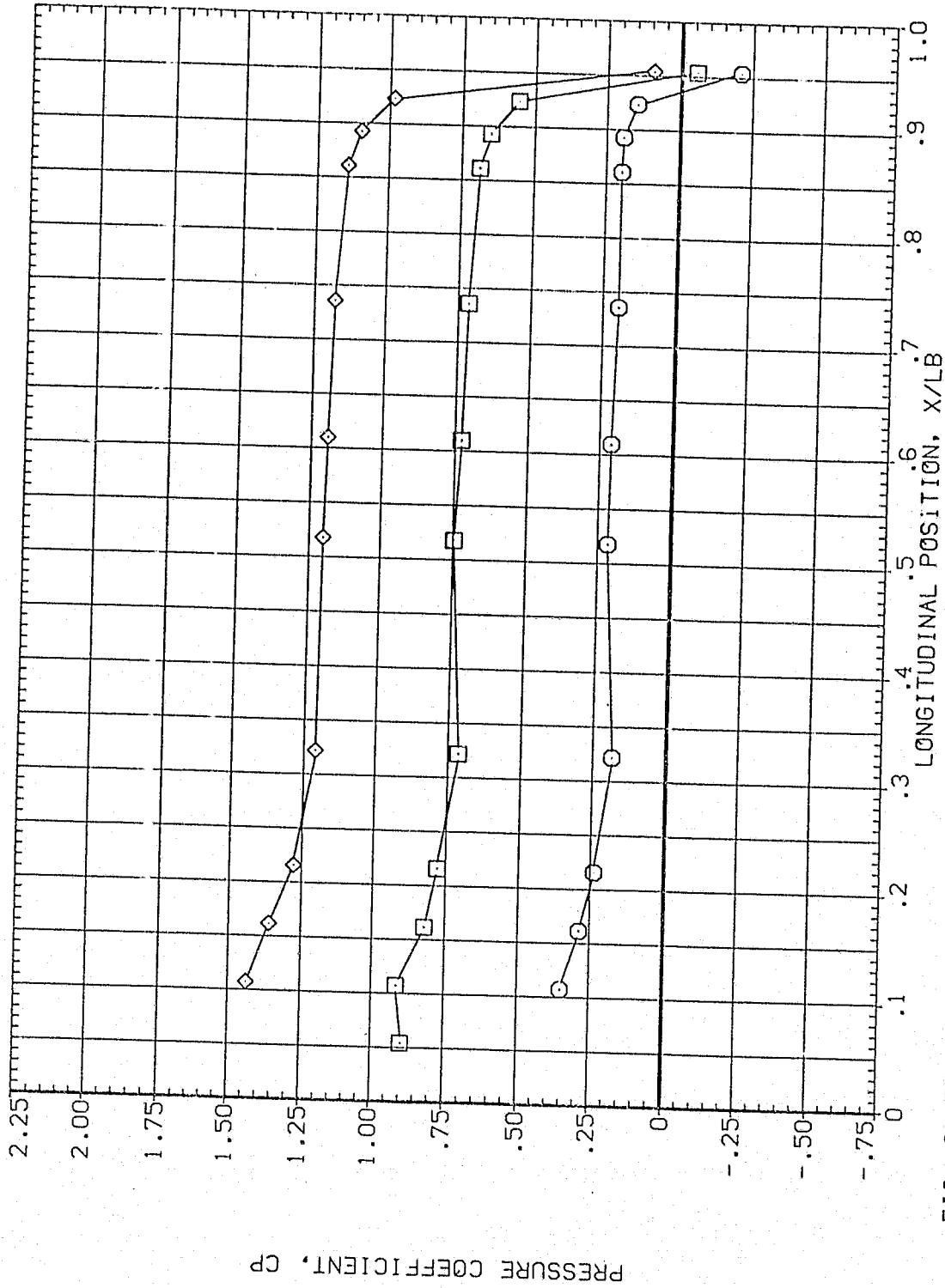


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	66.130	1.970	OUNT	.000 OFFSET
□	202.500			PHI	2.000
◇	225.000				.000

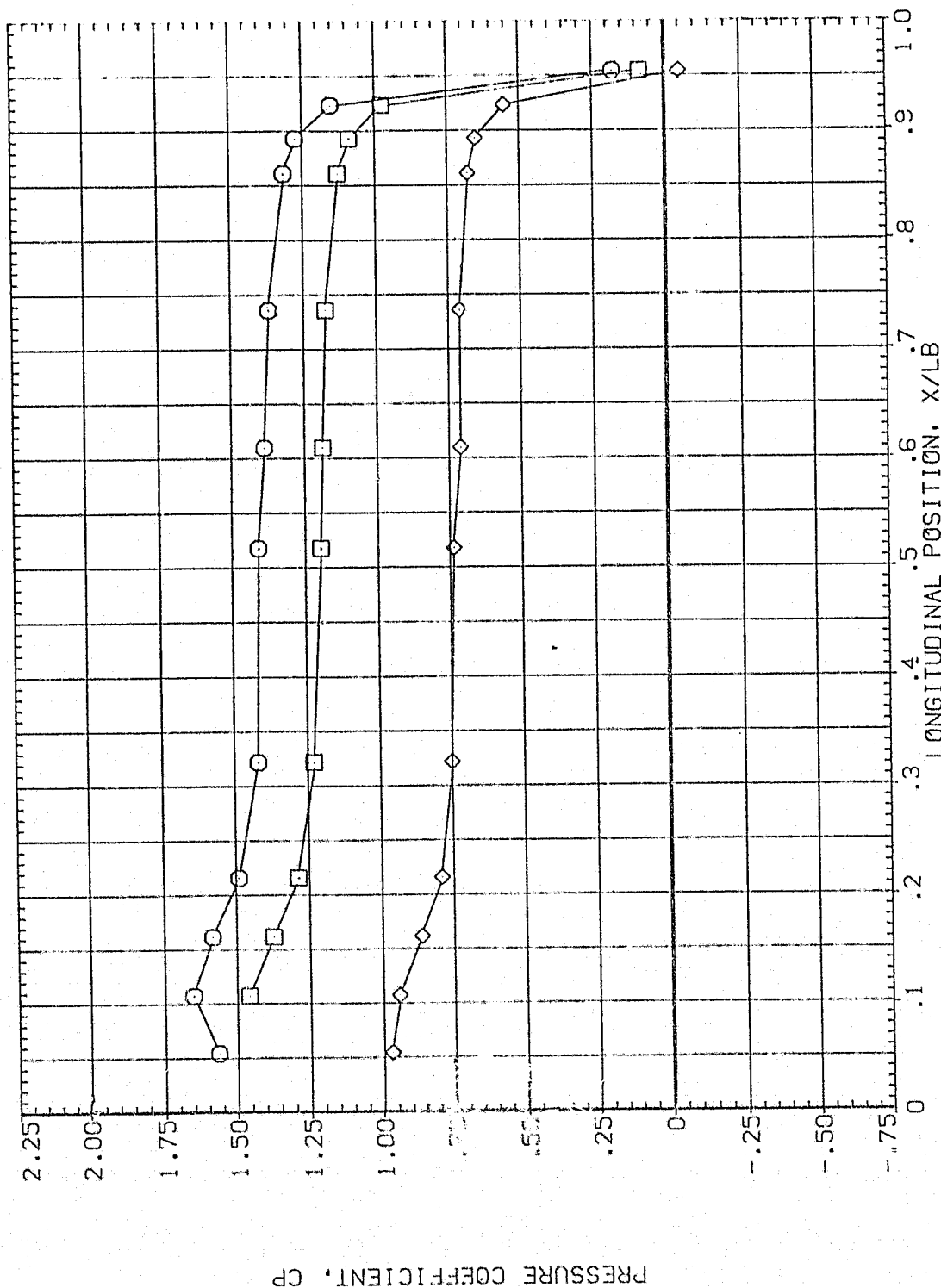


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	66.130	1.970	MOUNT	.000
□	270.000			PHI	2.000
◇	292.500				60.000
					.000

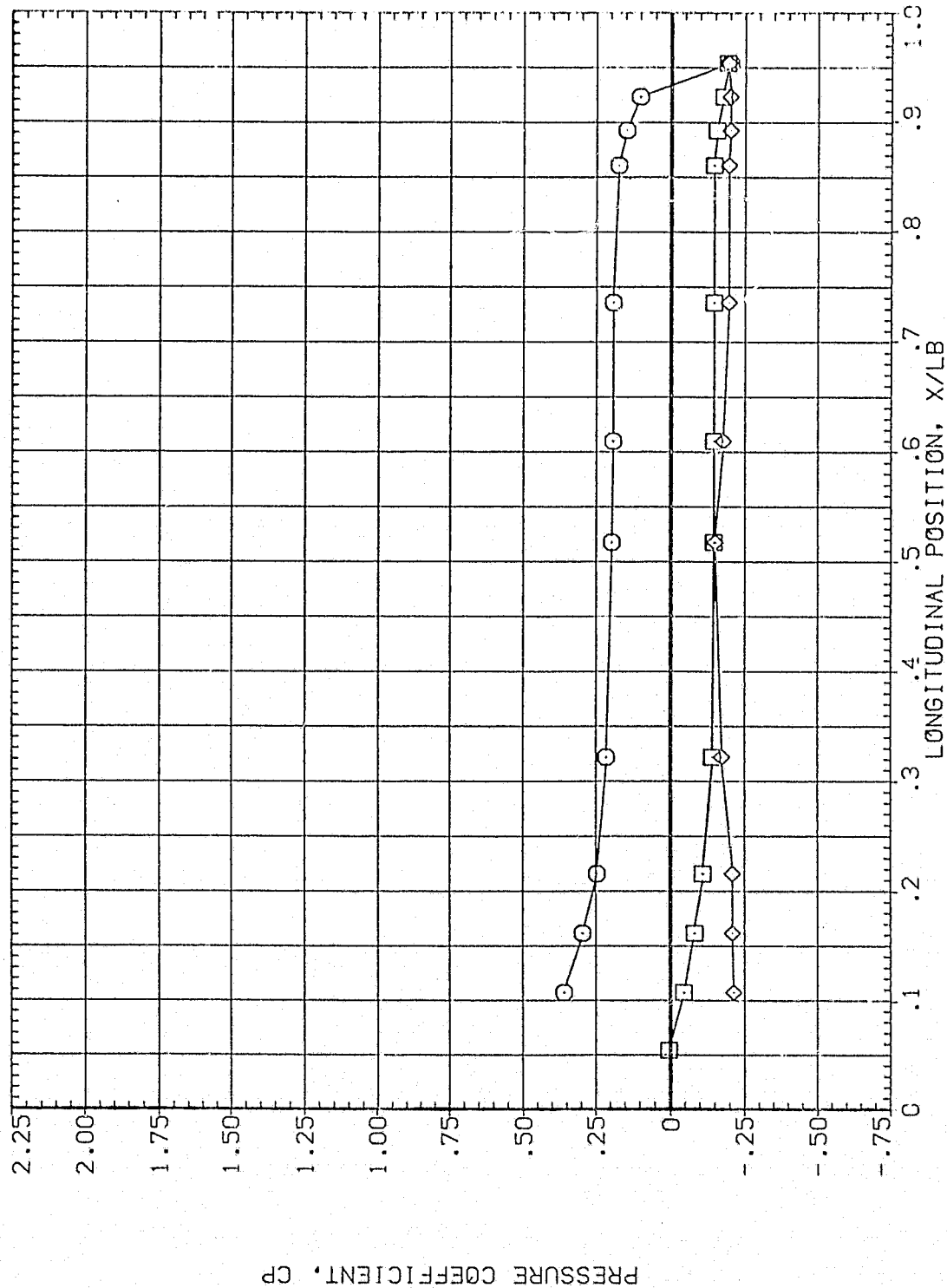


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL THETA ALPHA MACH  
 O 315.000 66.130 1.970  
 □ 326.000  
 ◇ 346.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2:000  
 OFFSET PHI 60.000  
 .000

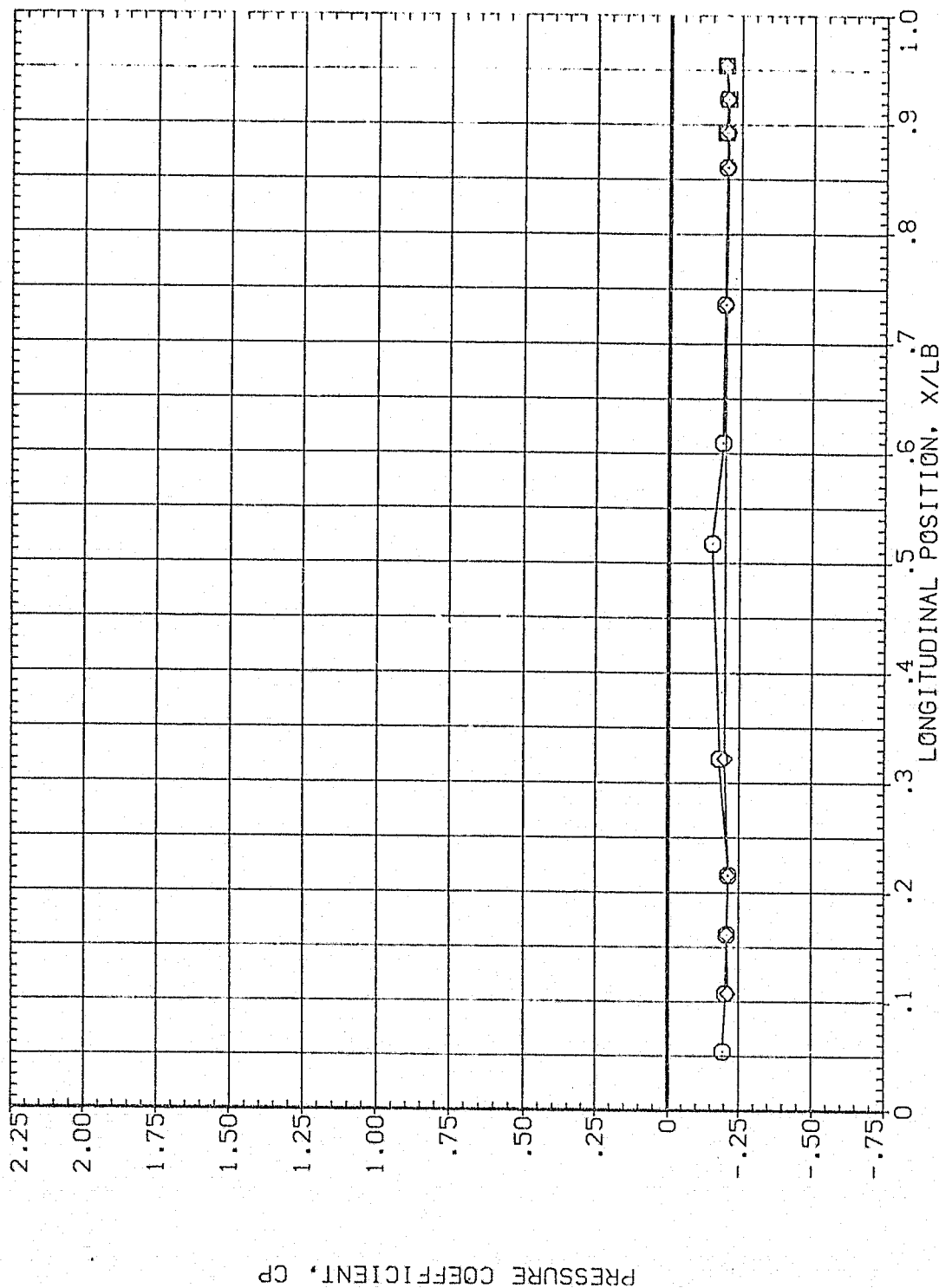


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET .000  
 PHI .000

SYMBOL THETA ALPHA MACH  
 ○ .000 69.130 1.970  
 □ 14.000  
 ◇ 24.000

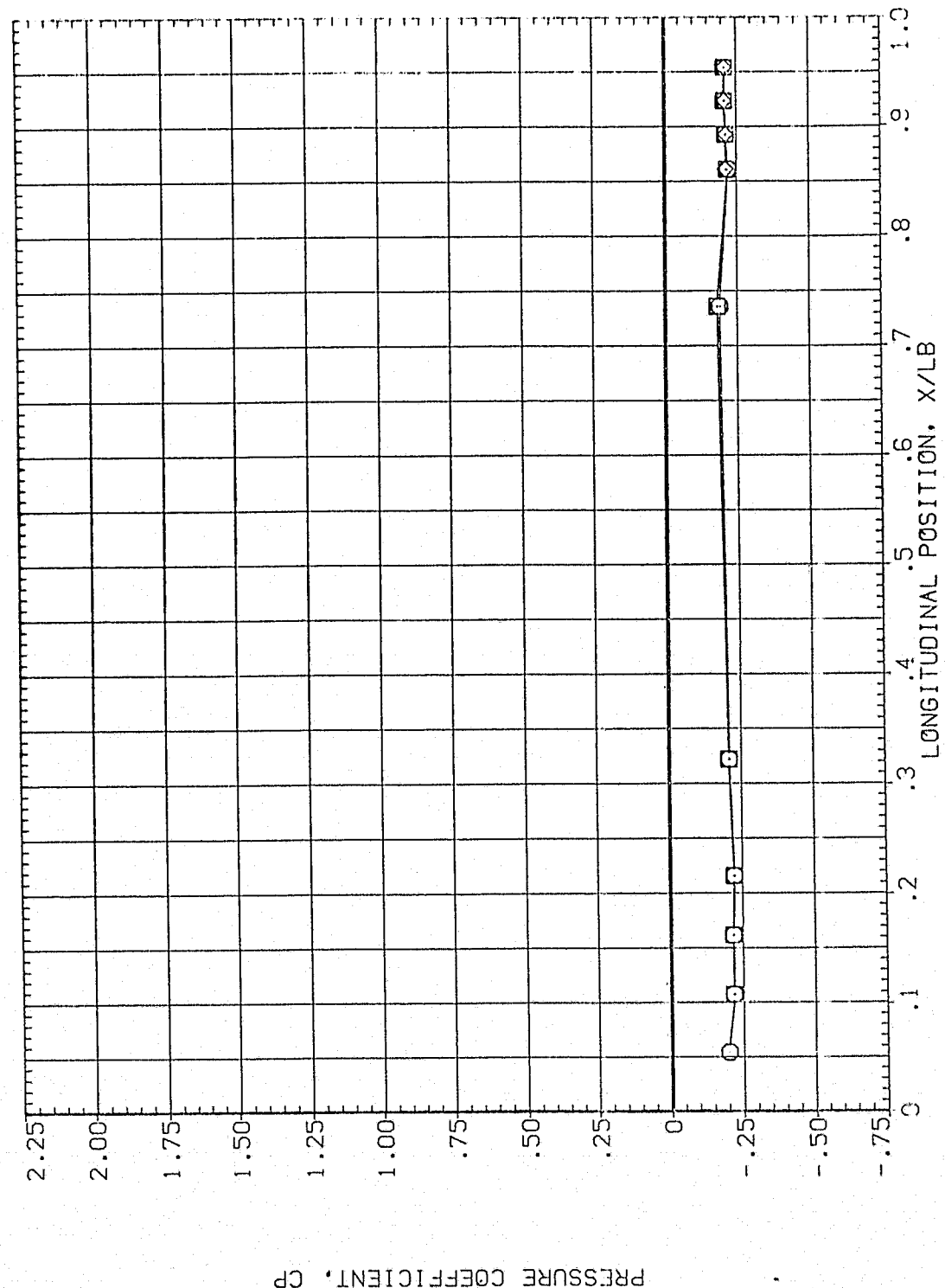


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	69.130	1.970	MOUNT	.000 OFFSET
□	67.500				2.000 PHI
◇	90.000				60.000

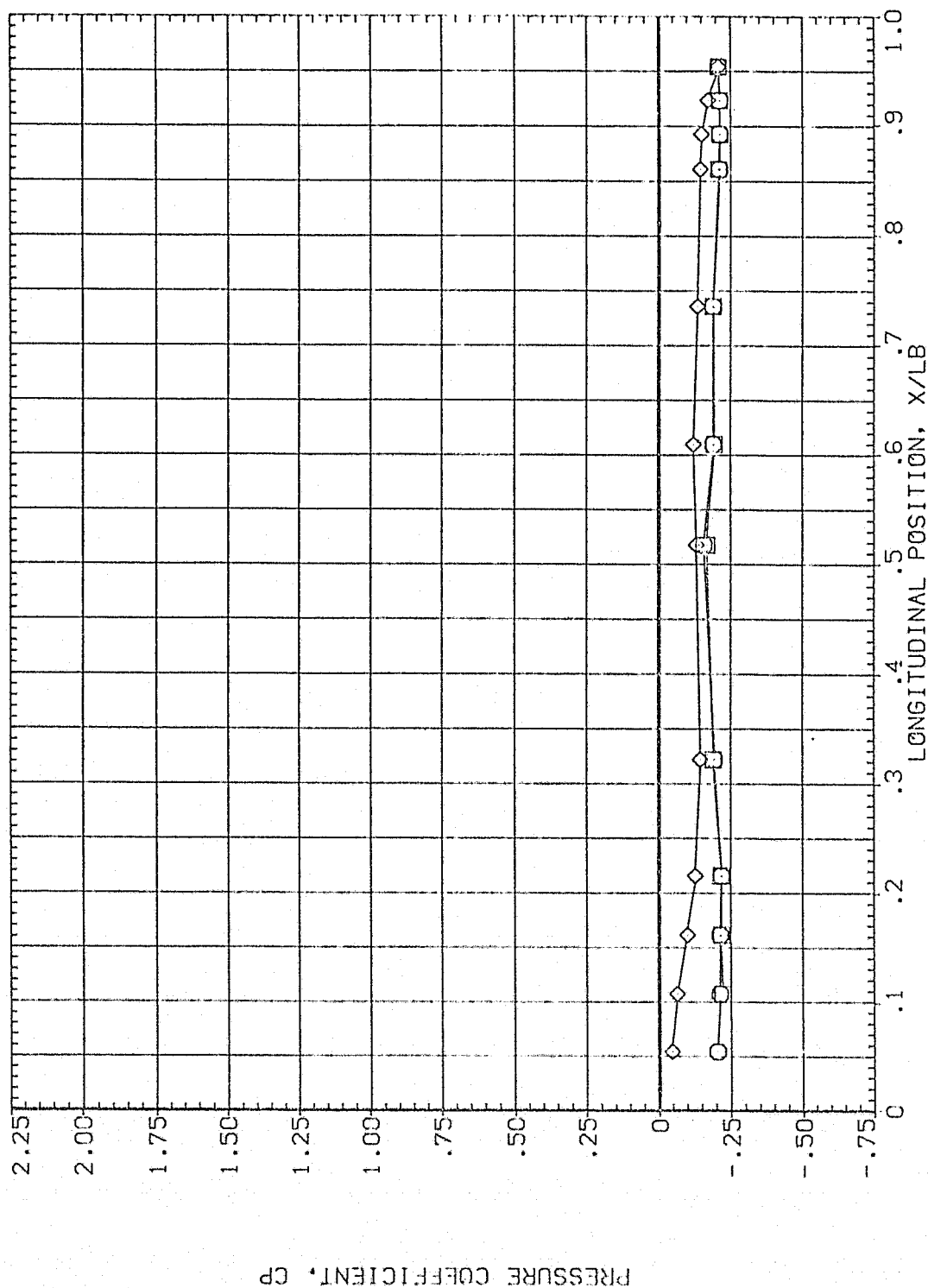


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	112.500	135.000	69.130	1.970			BETA	OFFSET	PHI	
○	157.500						MCUNT	.000	2.000	60.000
□										.000
◇										

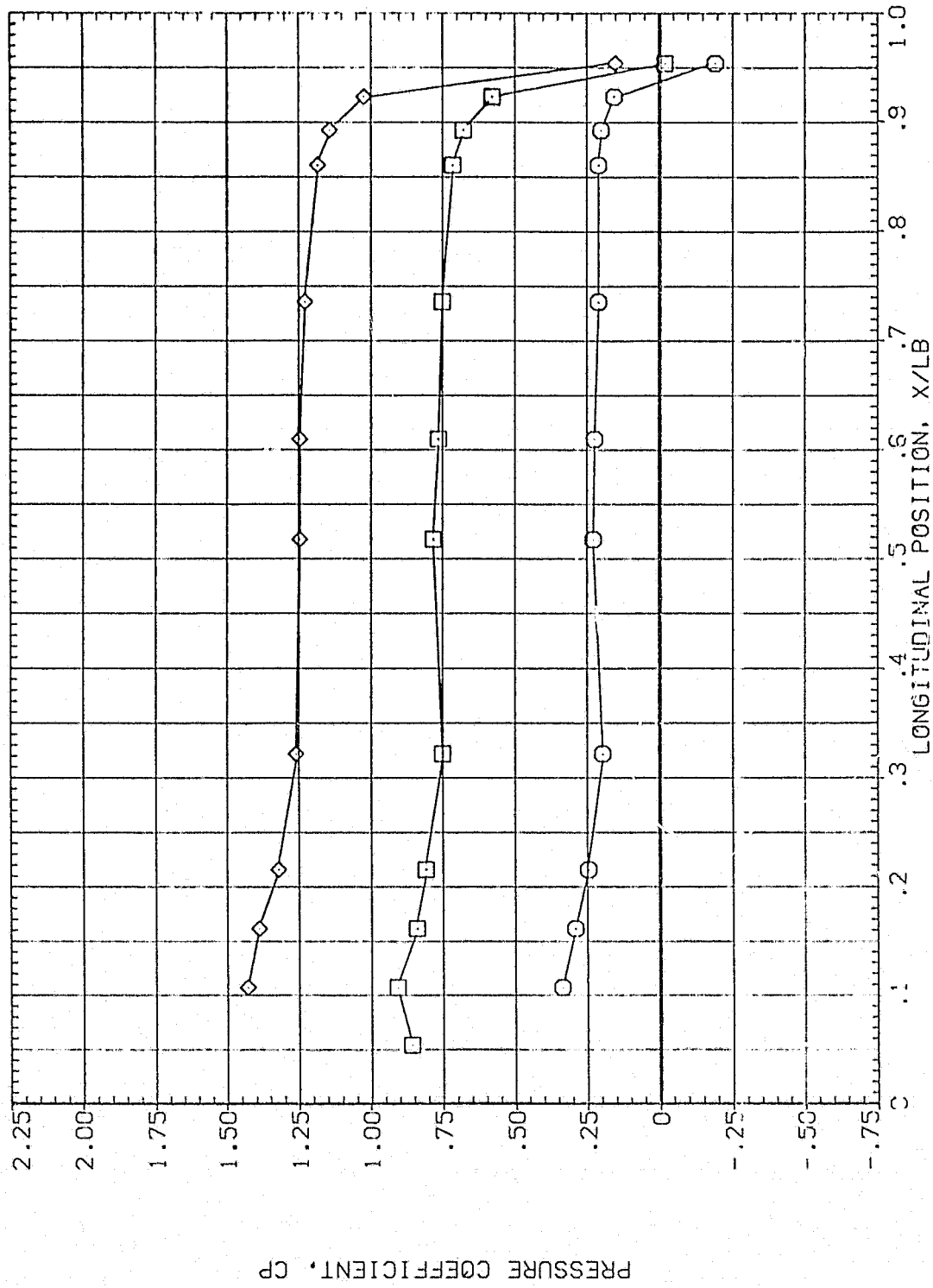


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI  
 60.000  
 .000

THETA ALPHA MACH  
 180.000 69.130 1.970  
 202.500  
 225.000

SYMBOL  
 ○  
 □  
 ◇

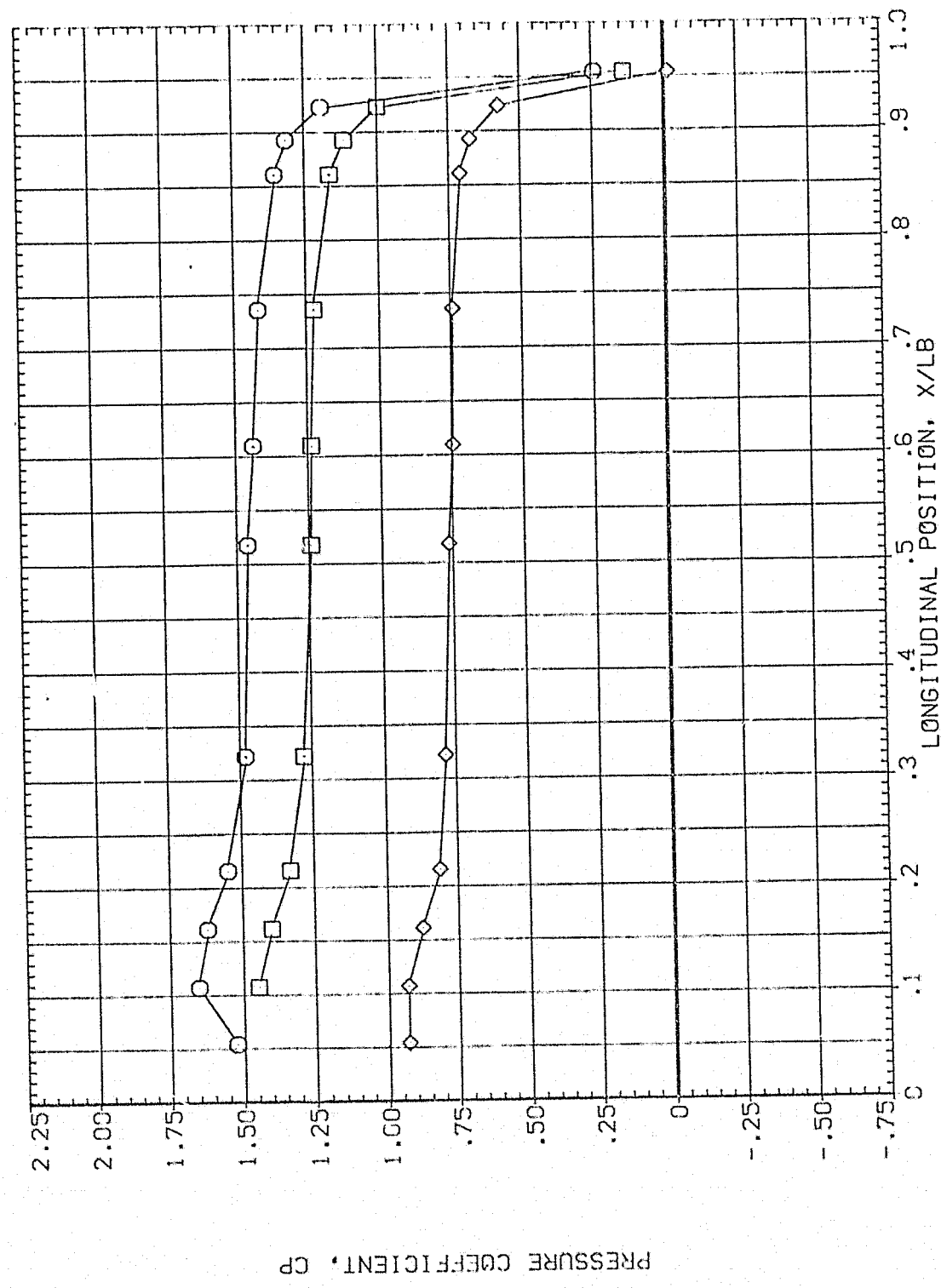


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	247.500		69.130		1.970		BETA		OFFSET	
	270.000						COUNT		PHI	
	292.500									

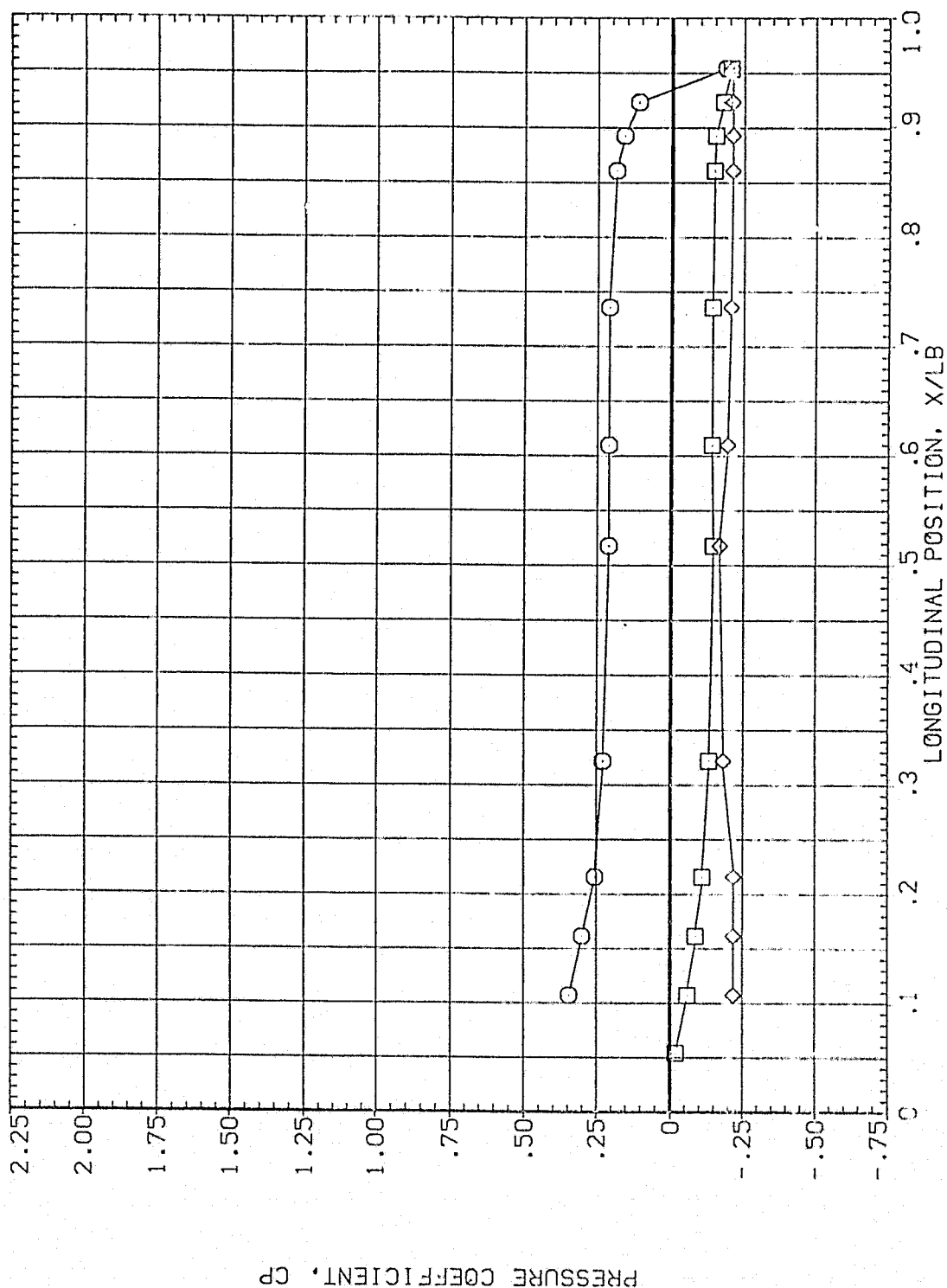


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	69.130	1.970	MOUNT	.000 OFFSET
□	326.000				2.000 PHI
◇	346.000				60.000 .000

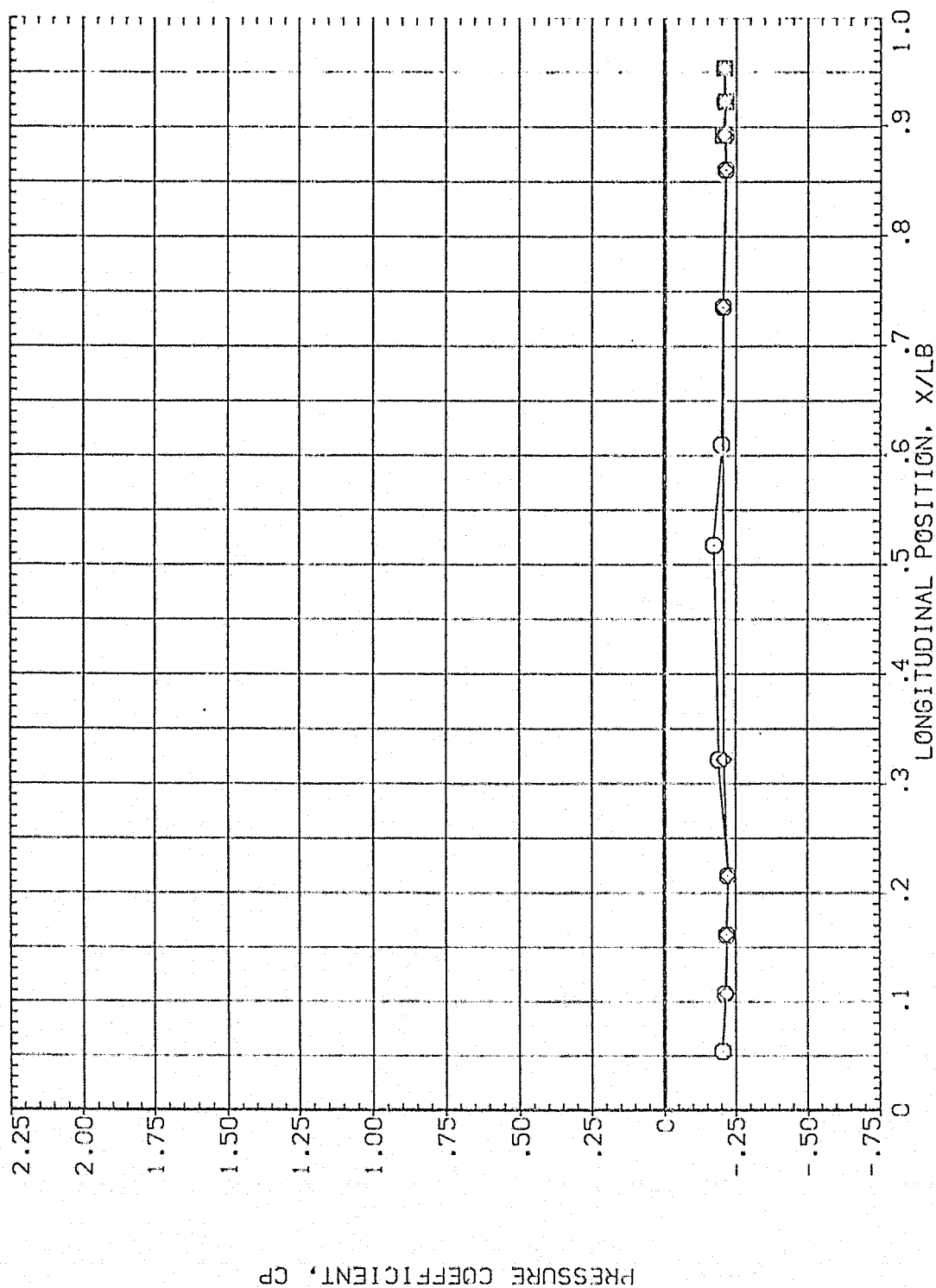


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA068)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.000	69.960	1.960	MOUNT	.000
□	14.000				2.000
◇	24.000				PHI
					80.000
					.000

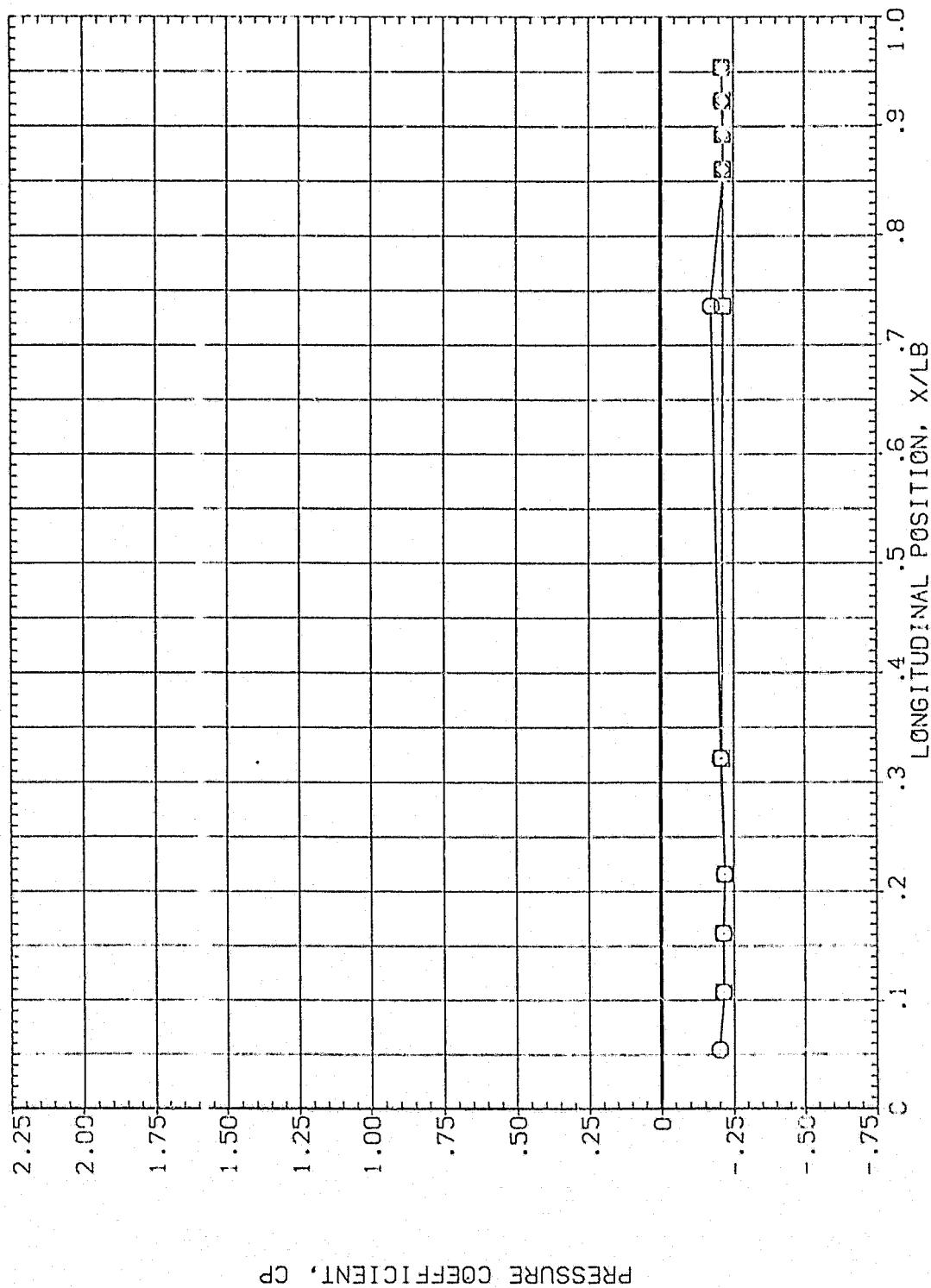


FIG. 9 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	45.000	59.960	1.960	MOUNT	.000
◇	67.500			PHI	80.000
	90.000				.000

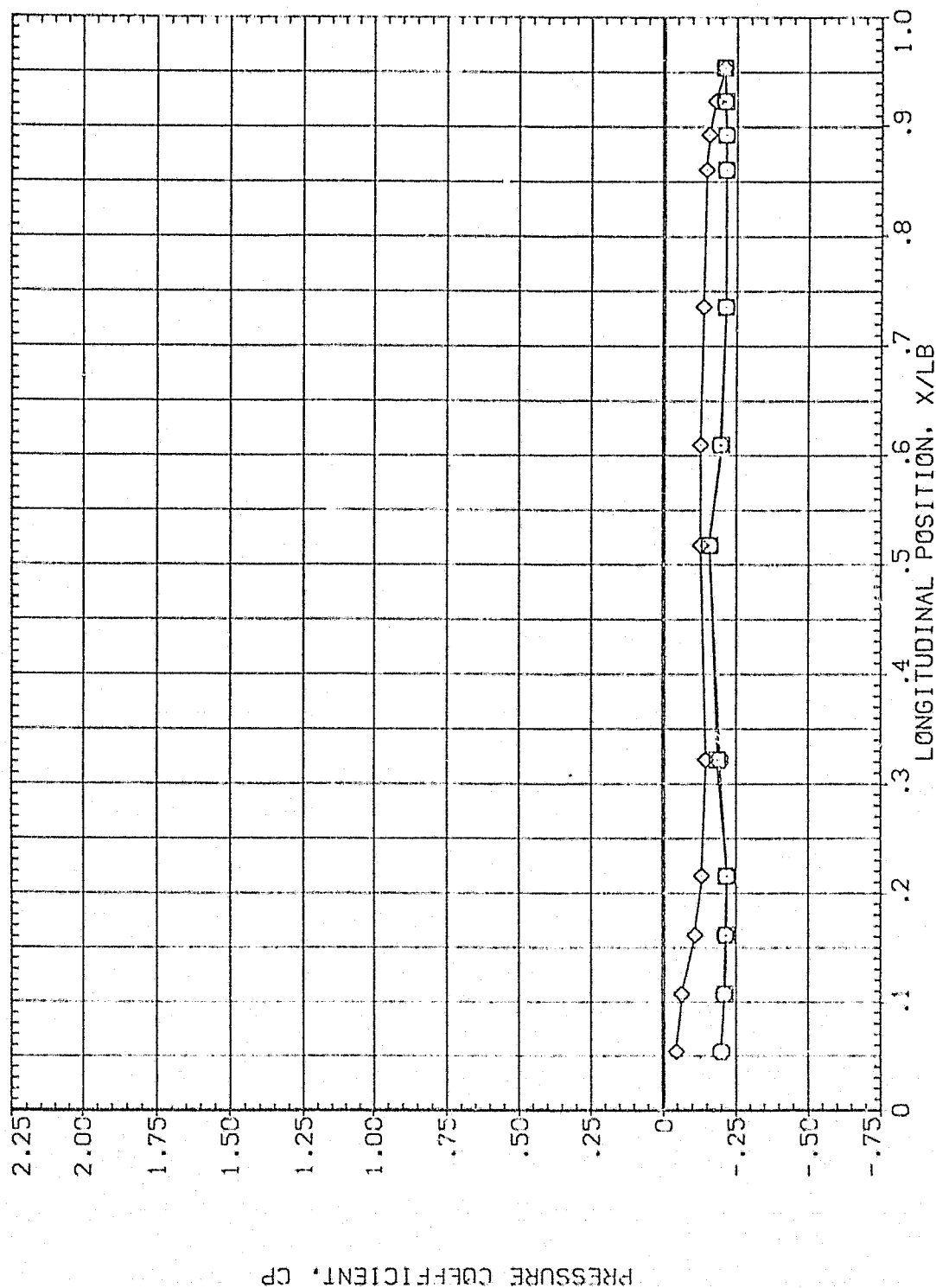


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	THETA		ALPHA	MACH	PARAMETRIC VALUES		
	112.500	135.000			BETA	OFFSET	80.000
○	157.500		69.960	1.960	RCOUNT	PHI	.000

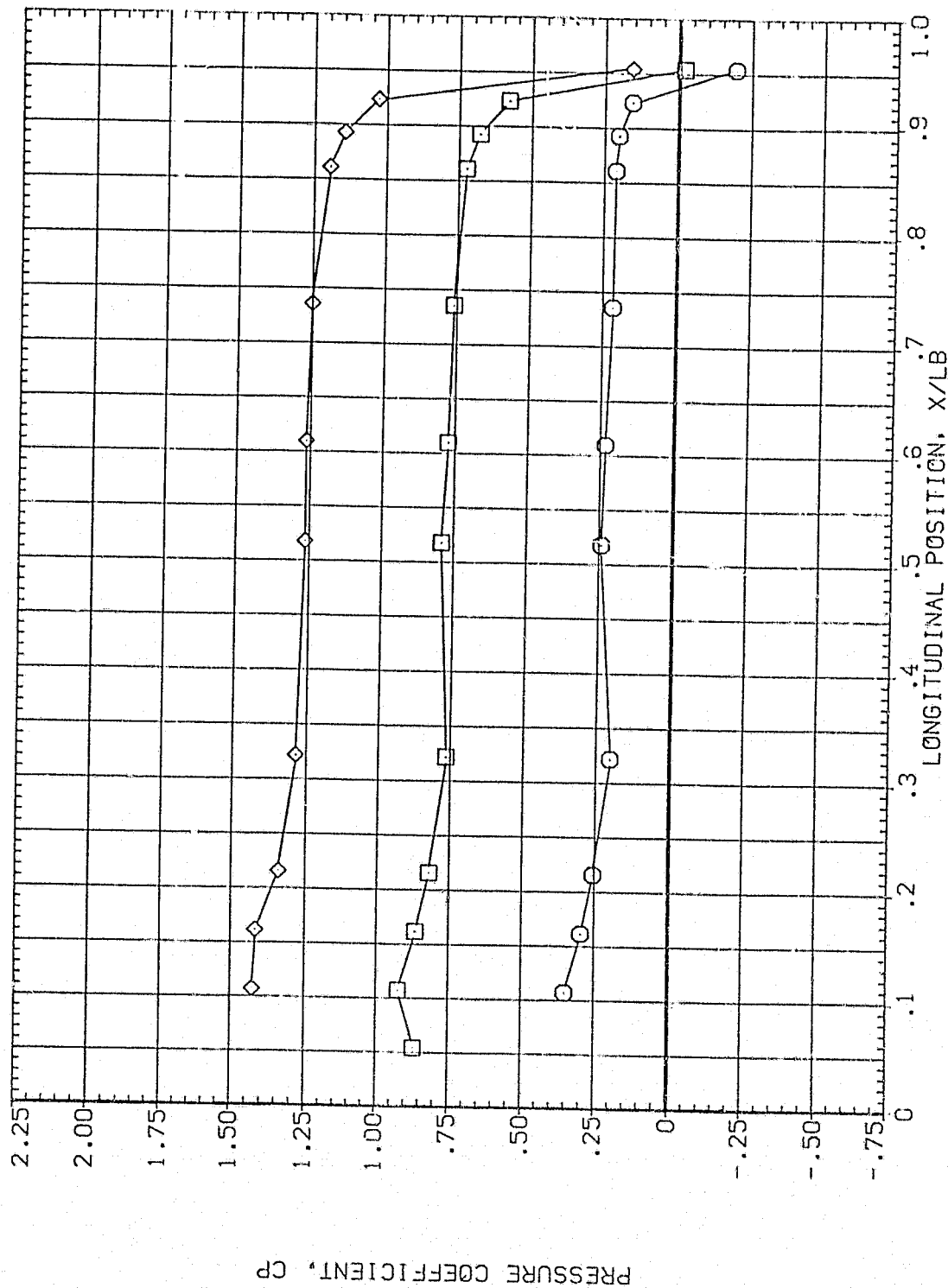


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	69.960	1.960	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				80.000 .000

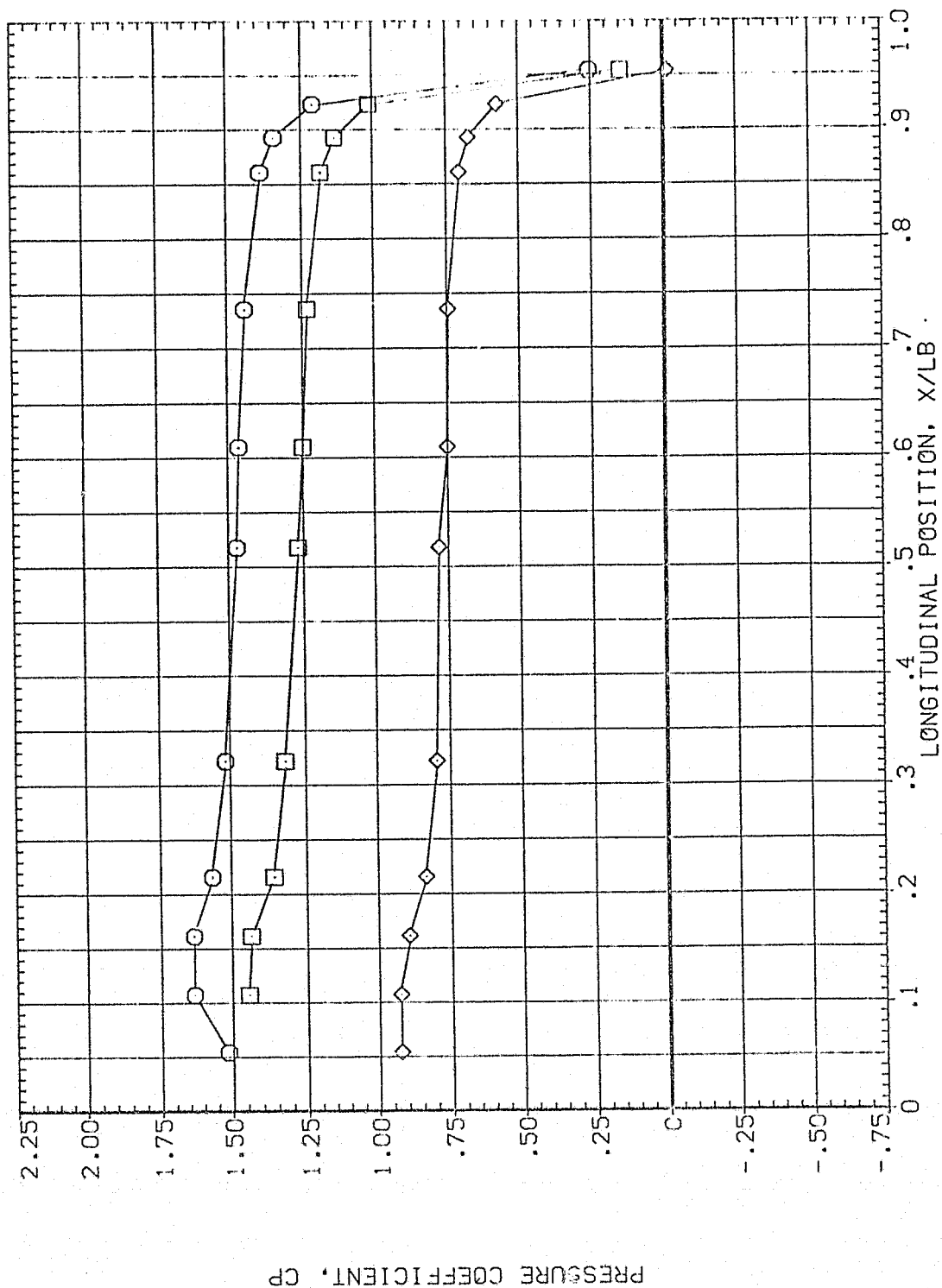


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	69.960	1.960	80.000		
□	270.000			2.000		
◇	292.500					

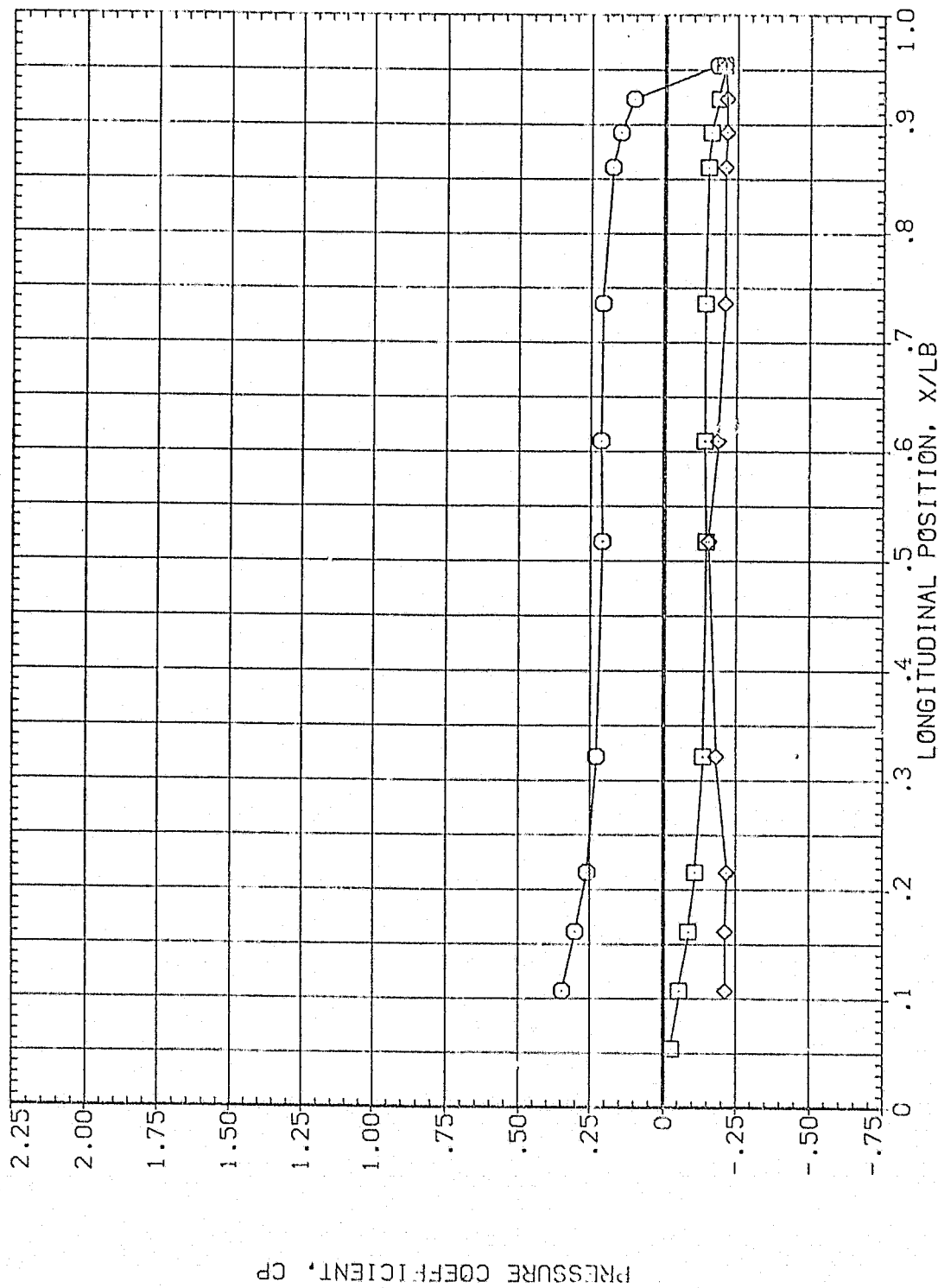


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL    THETA    ALPHA    MACH  
 ○    315.000    69.960    1.960  
 □    326.000  
 ◇    346.000

PARAMETRIC VALUES  
 BETA    .000    OFFSET    80.000  
 MCUNT    2.000    PHI    .000

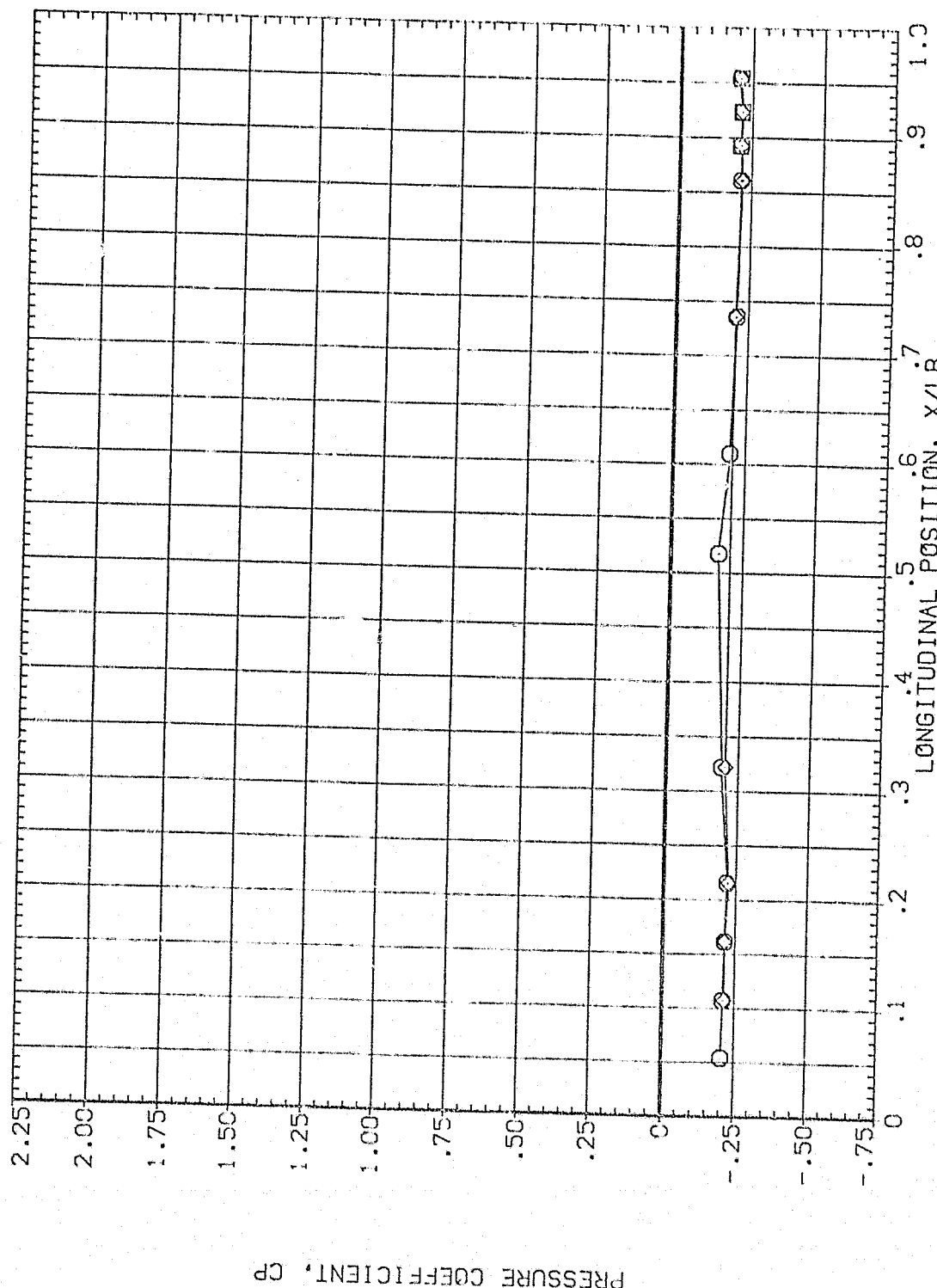


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 O  
 □  
 ◇

THETA .000  
 14.000  
 24.000

ALPHA 71.880

MACH 1.960

BETA .000  
 %GUNT 2.000

PARAMETRIC VALUES  
 OFFSET 80.000  
 PHI .000

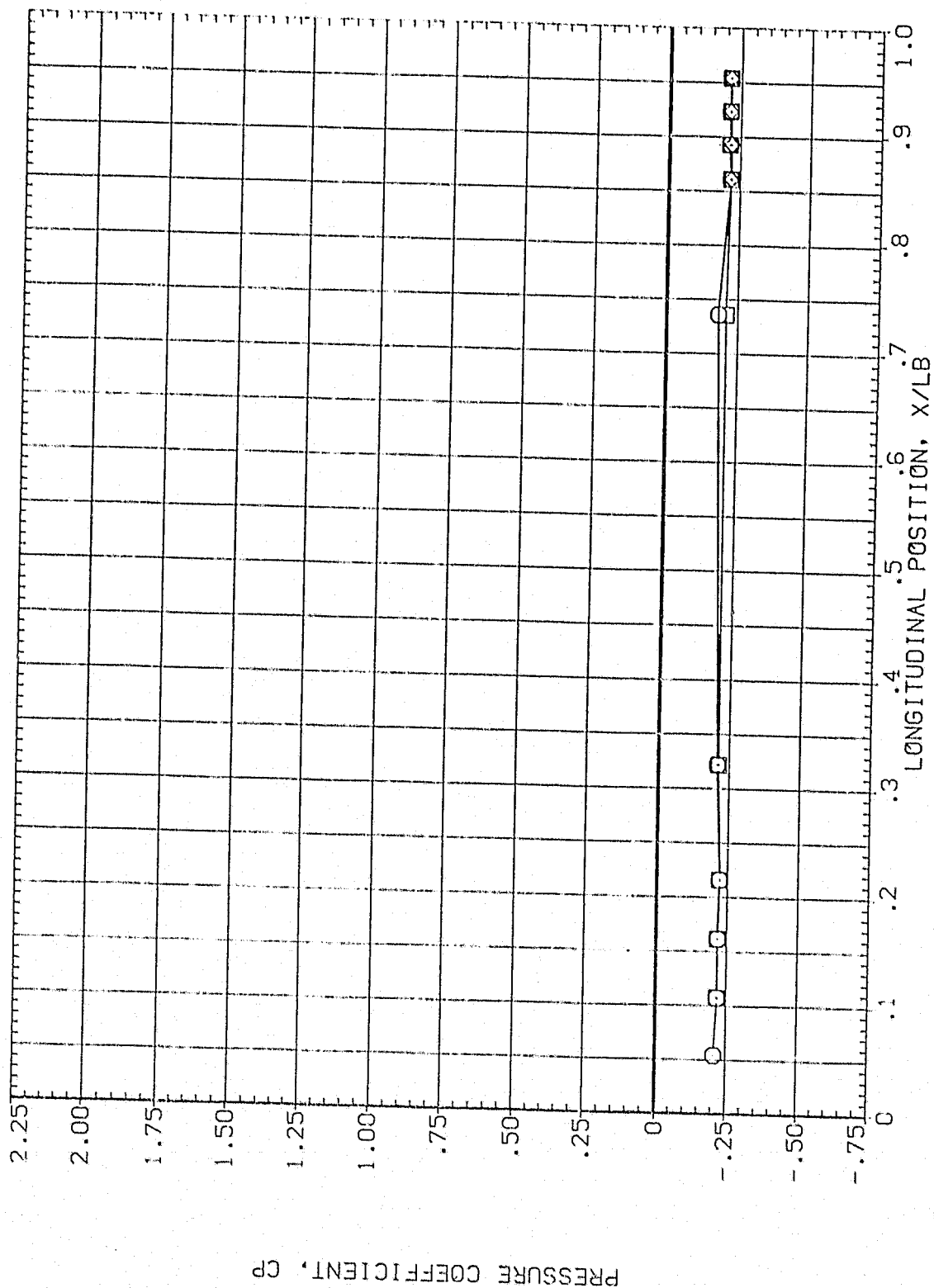


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL

THETA  
45.000  
67.500  
90.000

ALPHA  
71.980

MACH  
1.960

BETA  
MOUNT

PARAMETRIC VALUES  
.000 CFFSET  
2.000 PHI

80.000  
.000

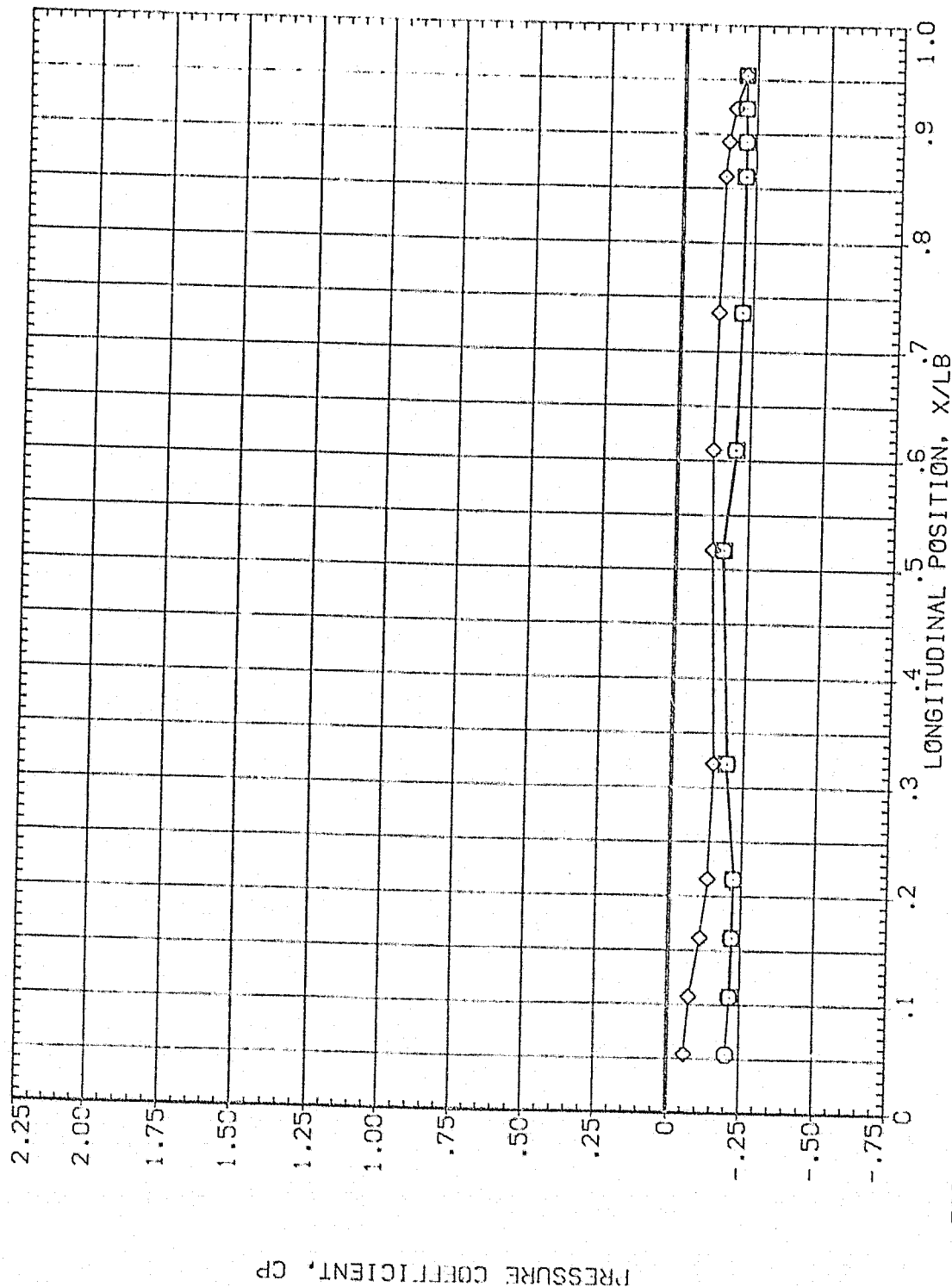


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	112.500	71.880	1.960	MOUNT	.000
□	135.000			OFFSET	2.000
◇	157.500			PHI	.000

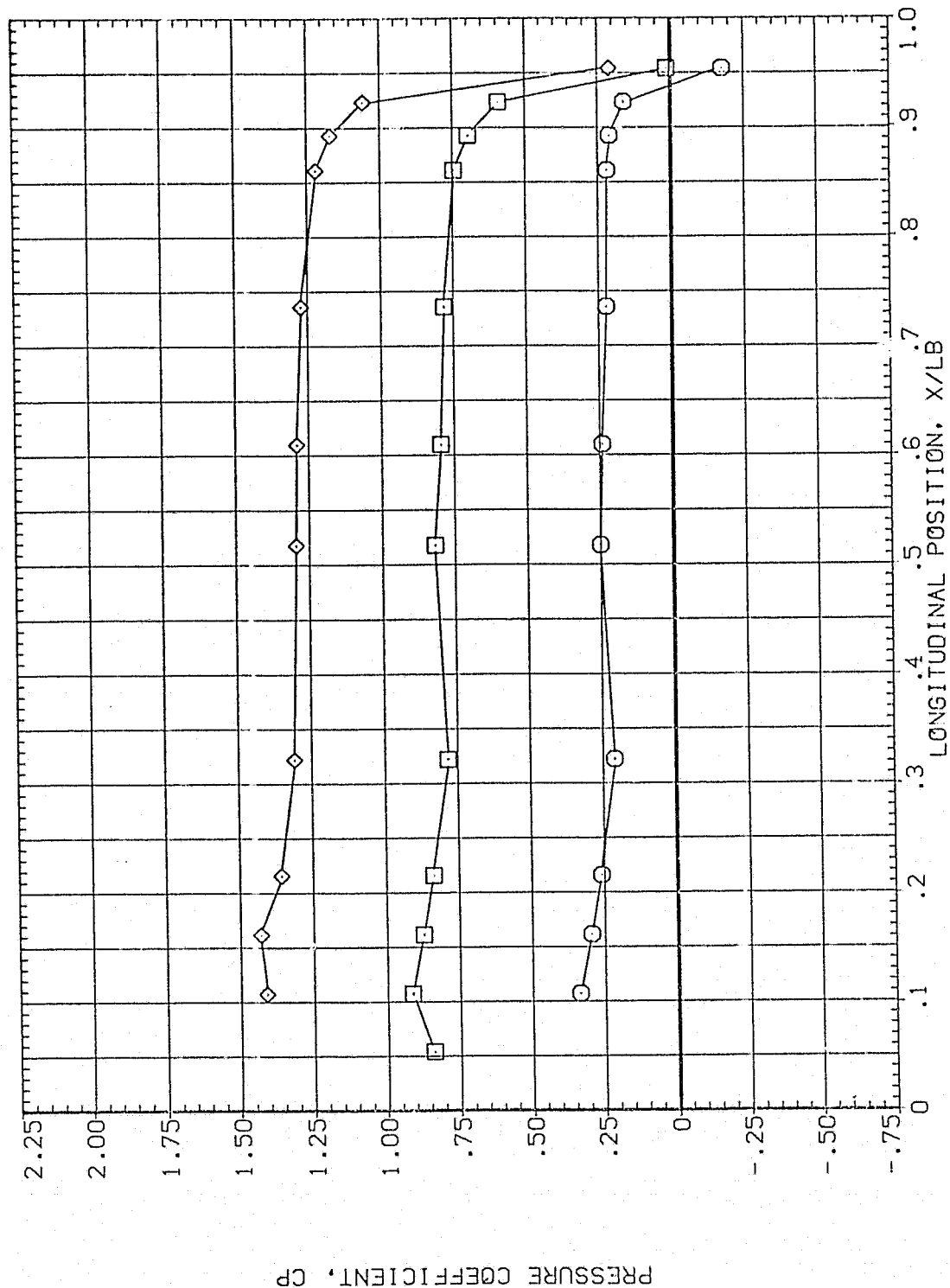


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAFETRIC VALUES
○	180.000	71.880	1.960	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				80.000
					.000

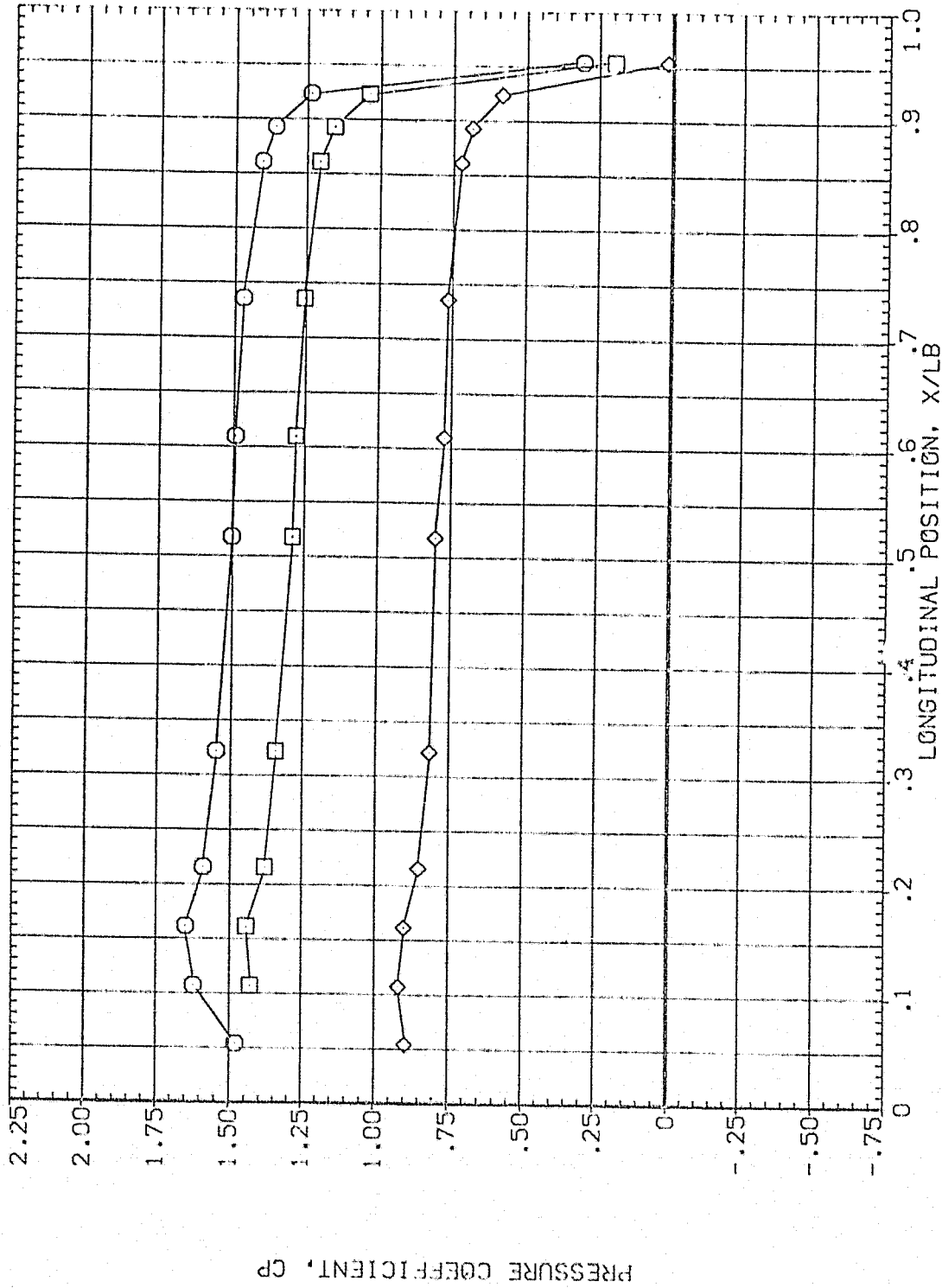


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
 BETA .000 CFFSET 80.000  
 MOUNT 2.000 PHI .000

ALPHA 71.880 MACH 1.960

SYMBOL THETA  
 ○ 247.500  
 □ 270.000  
 ◇ 292.500

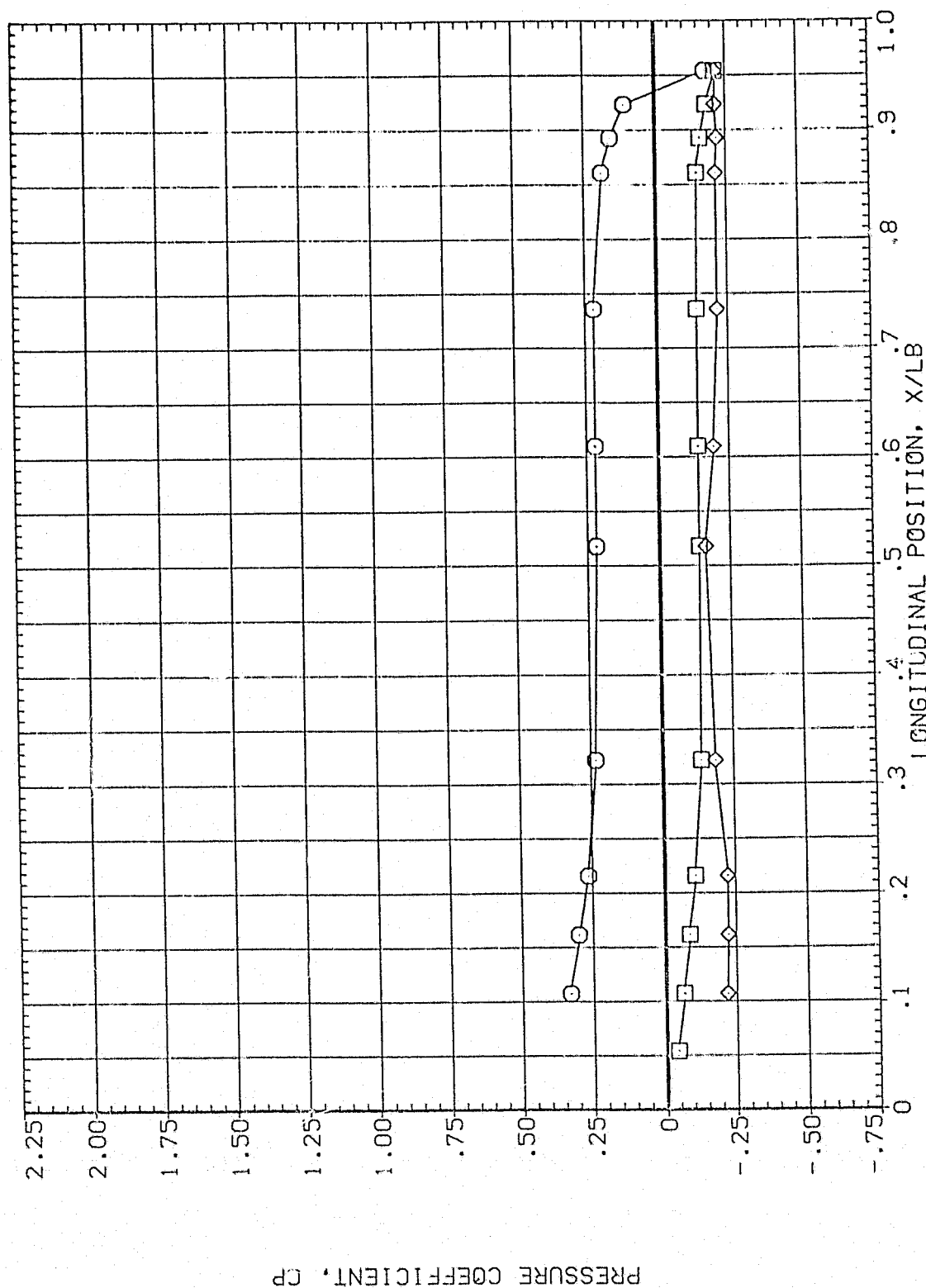


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBOL THETA ALPHA MACH  
 315.000 71.880 1.960  
 326.000  
 348.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 80.000  
 .000

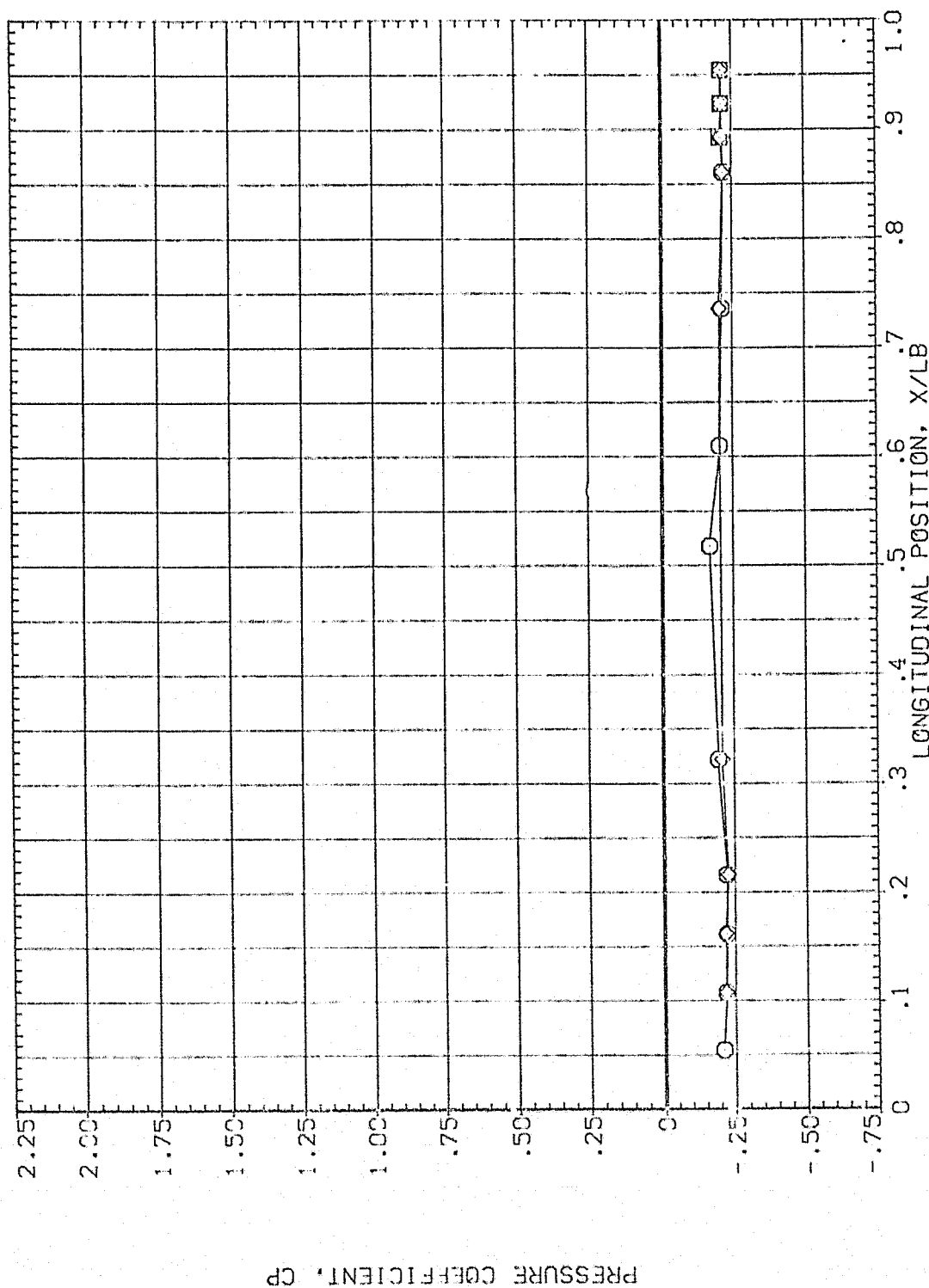


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.000	74.860	1.960	MCUNT	.000 CSESET 80.000
□	14.000				2.000 P-1 .000
◇	24.000				

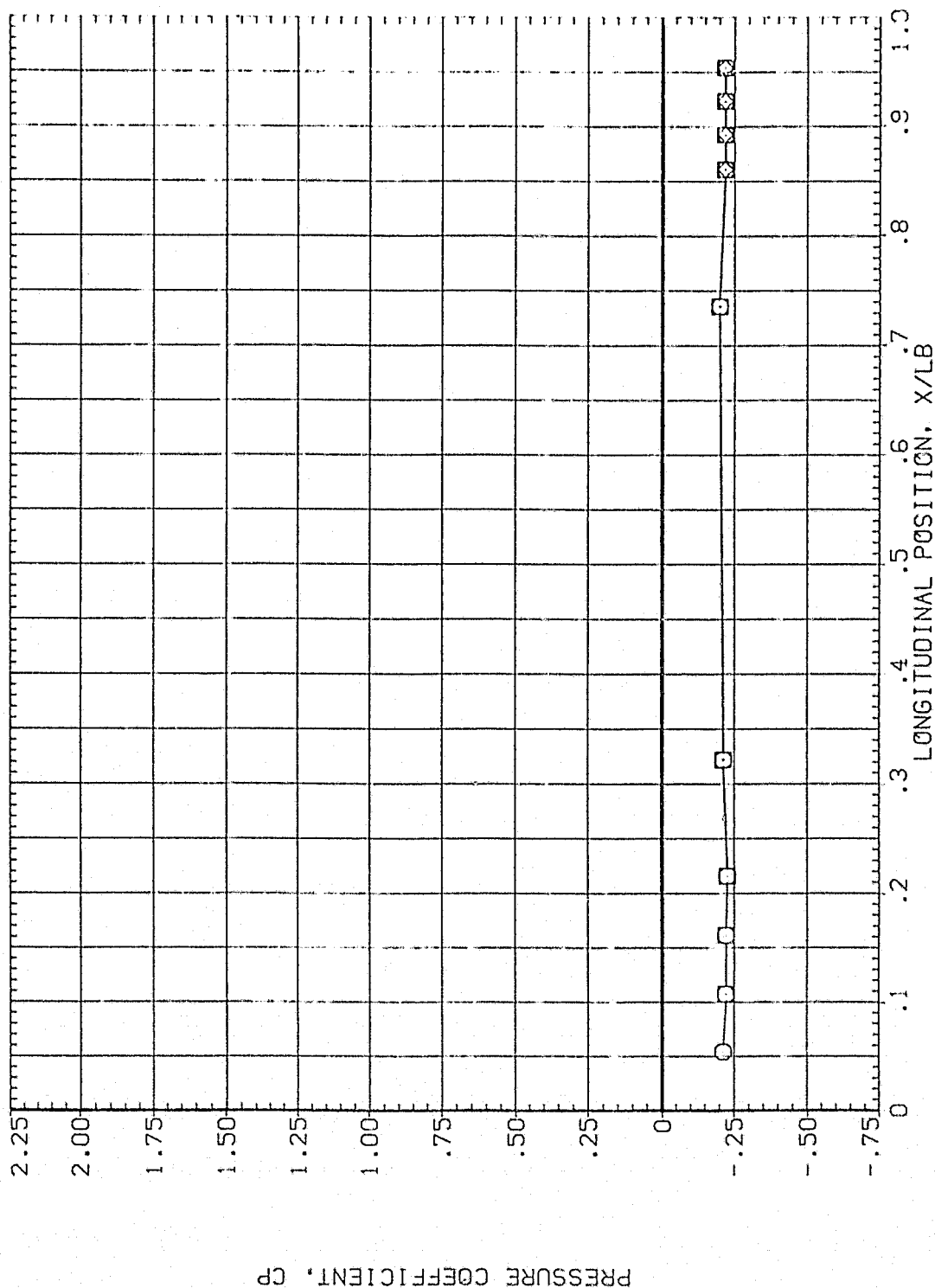


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 ○  
 □  
 ◇

THETA  
 45.000  
 67.500  
 90.000

ALPHA  
 74.860

MACH  
 1.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 2.000 80.000  
 OFFSET PHI

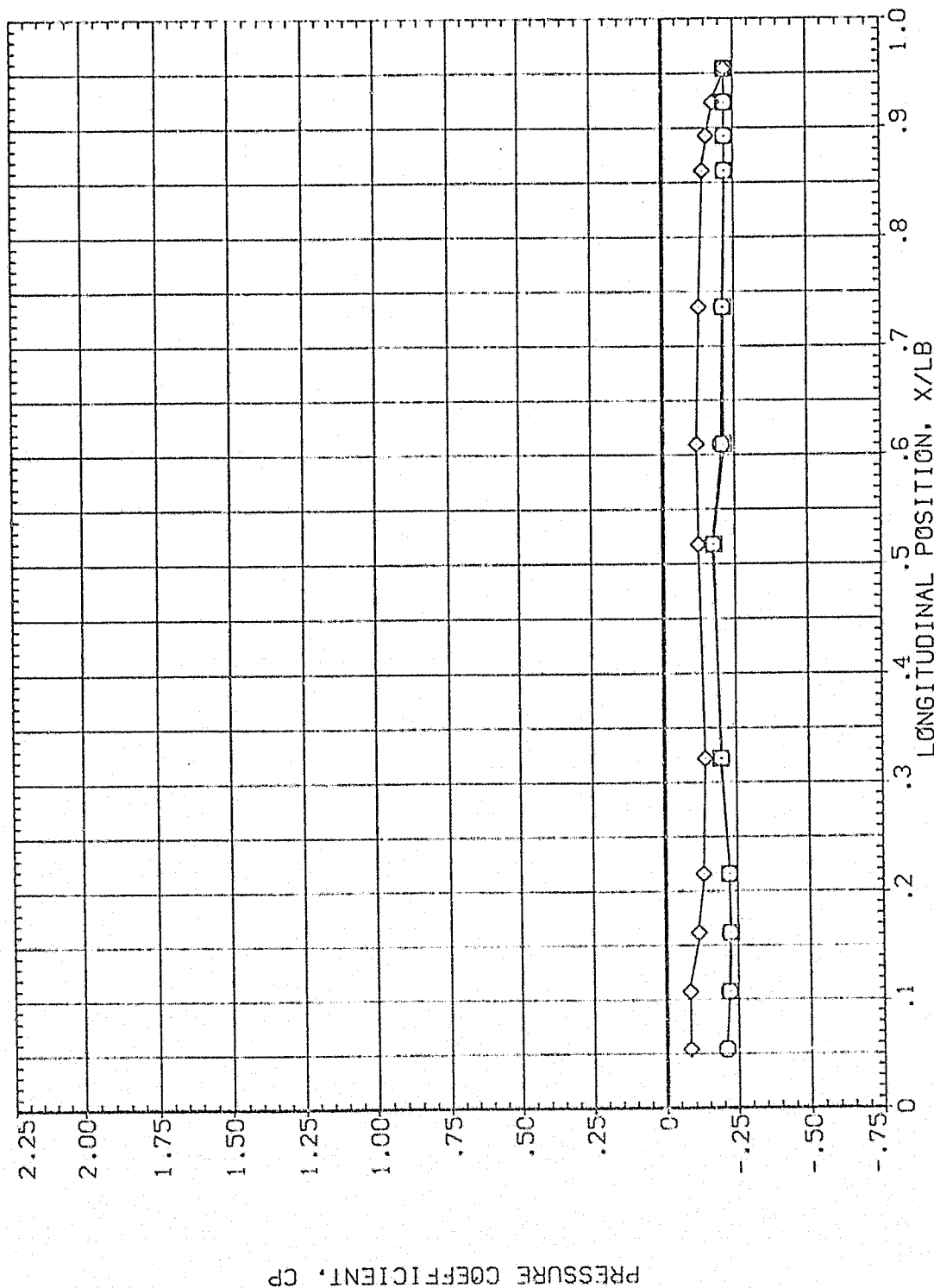


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL	THETA	ALPHA	HACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
◇	112.500	74.860	1.960	MOUNT	.000	80.000
□	135.000				2.000	.000
○	157.500					

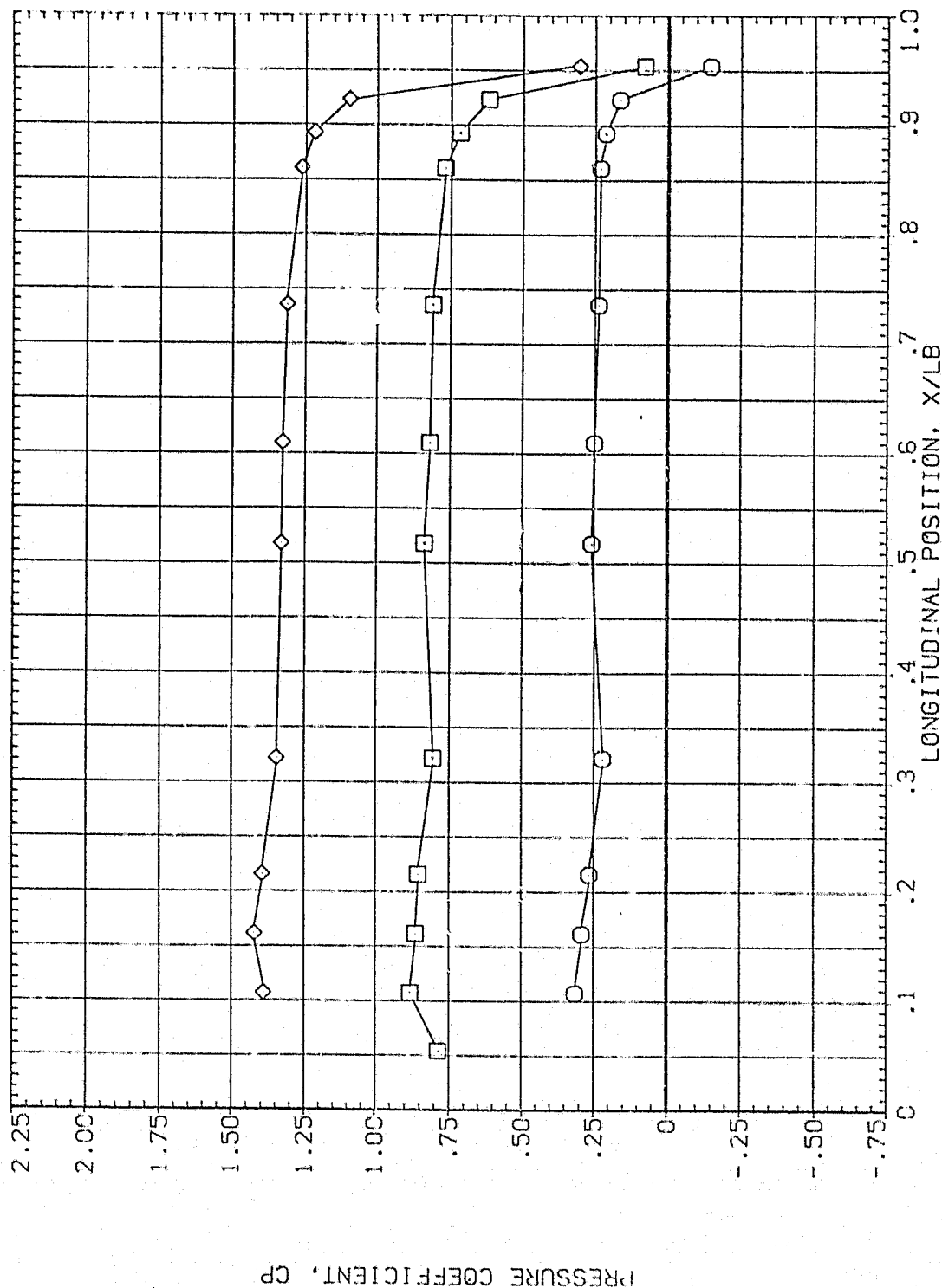


FIG. 3 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(PIA070)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
○  
□  
◇

THETA  
180.000  
202.500  
225.000

ALPHA  
74.860

MACH  
5.960

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI

80.000  
.000

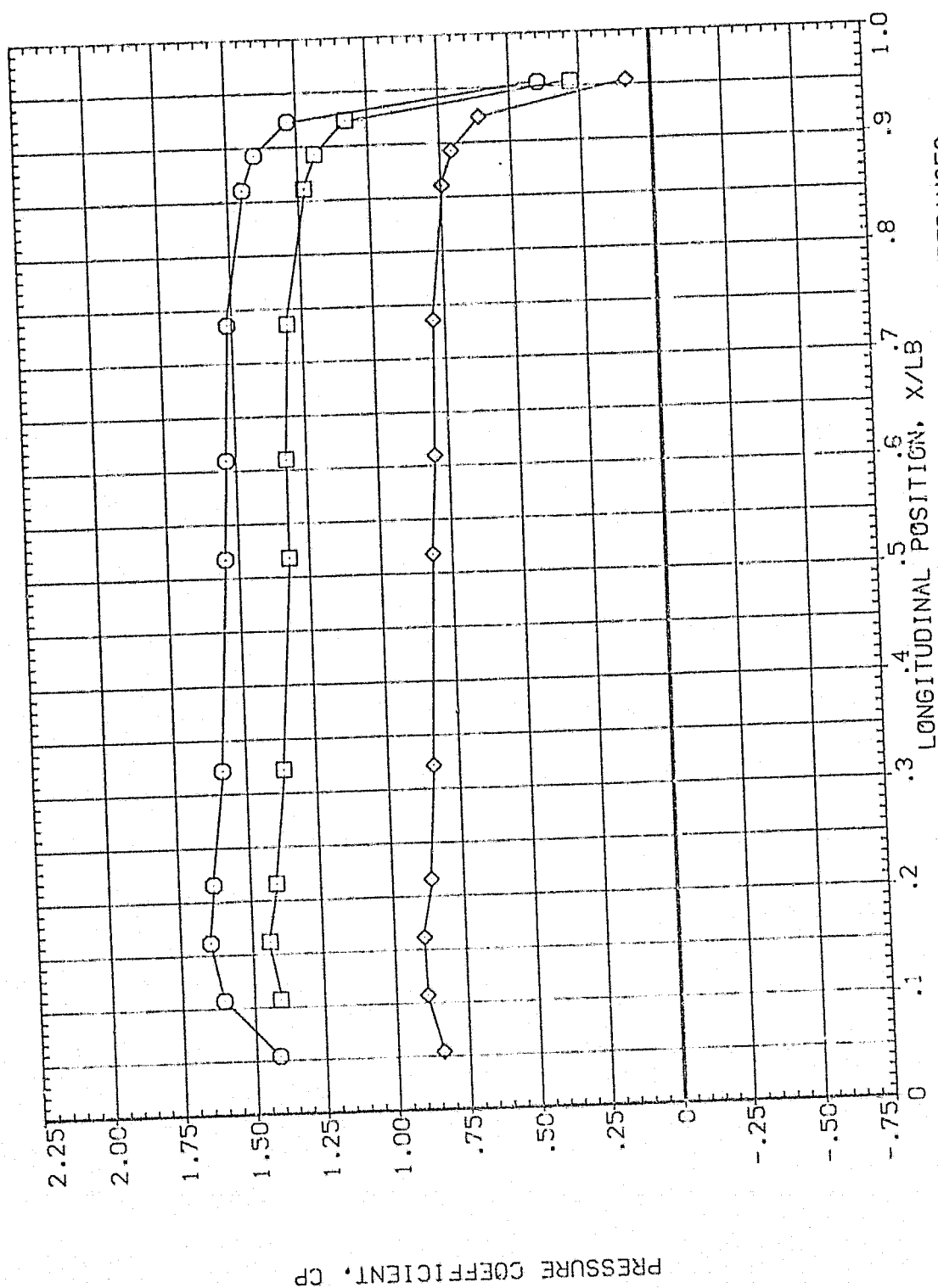


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET 80.000  
 PHI .000

SYMBOL THETA ALPHA MACH  
 247.500 74.850 1.960  
 272.000  
 292.500

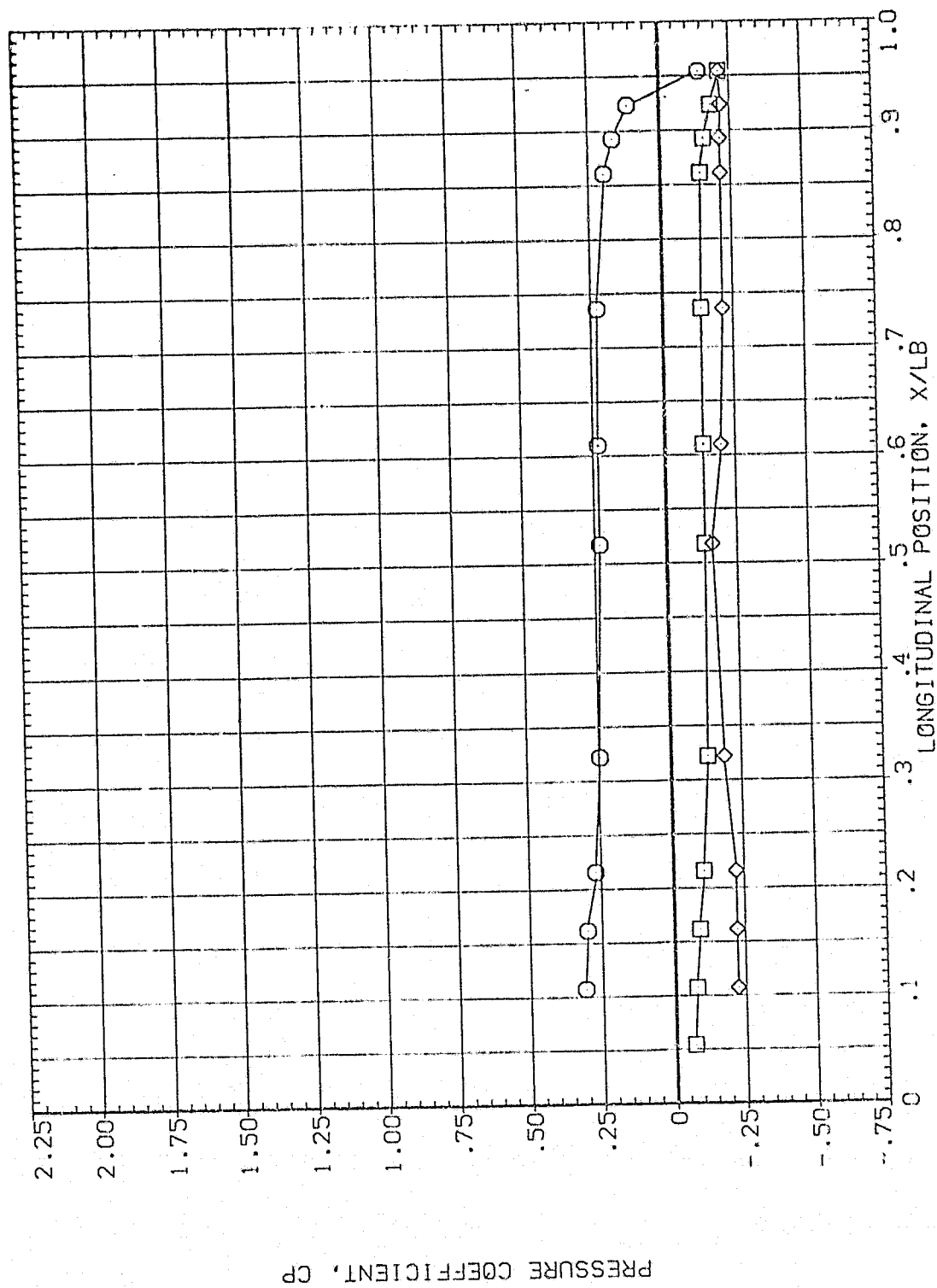


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 ○  
 □  
 ◇

THETA  
 315.000  
 326.000  
 346.000

ALPHA  
 74.860

MACH  
 1.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 2.000  
 OFFSET  
 PHI

80.000  
 .000

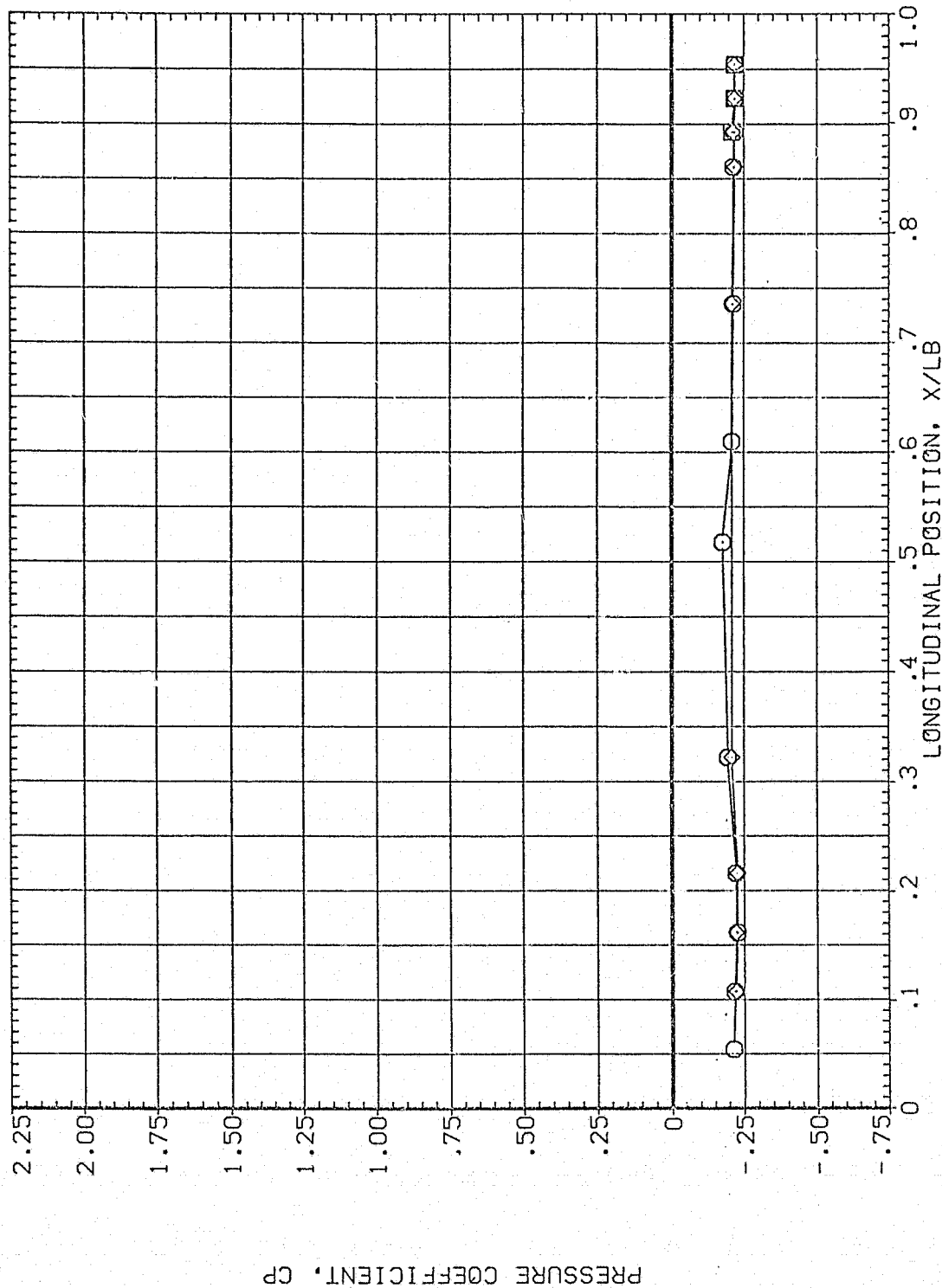


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL

THETA  
.000  
14.000  
24.000

ALPHA  
77.860  
MACH  
1.960

PARAMETRIC VALUES

BETA  
MOUNT

.000  
2.000  
PHI

80.000  
.000

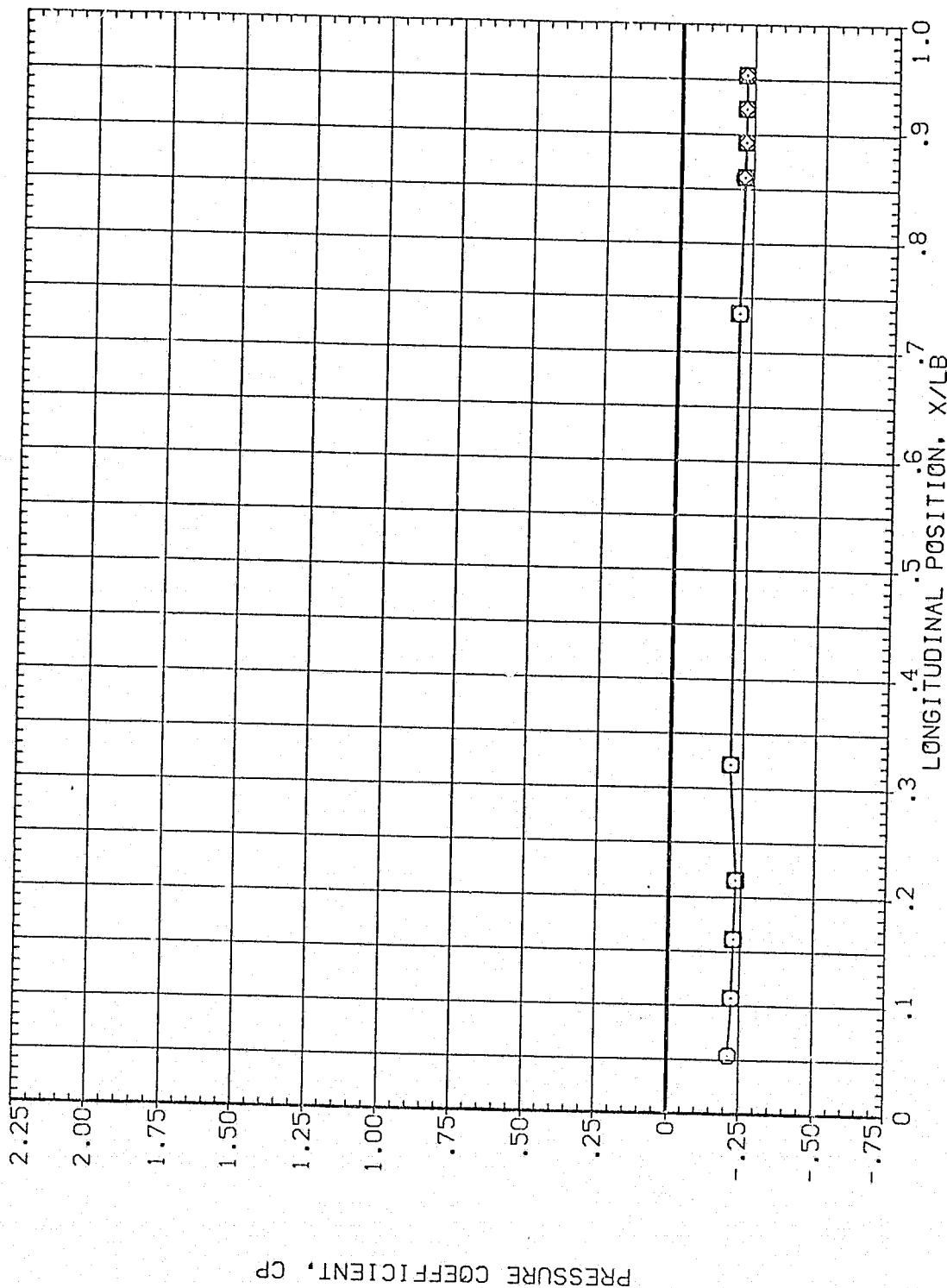


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(P1A071)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
PHI 80.000  
OFFSET .000

SYMBOL  
THETA 45.000  
ALPHA 77.860  
MACH 1.960  
45.000  
67.500  
90.000

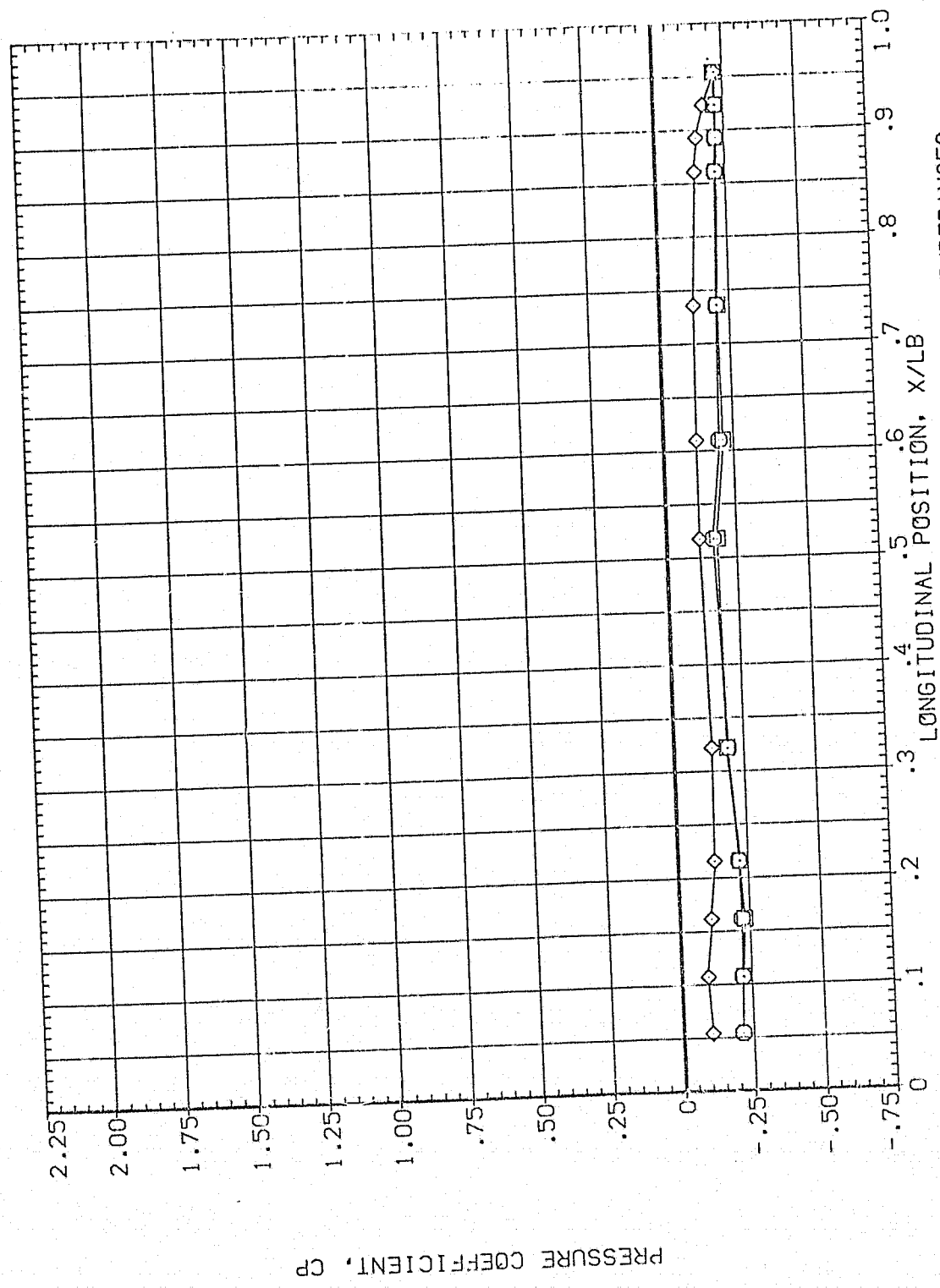


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA071)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	77.860	1.960	MOUNT	.000	.000
□	135.000				2.000	
◇	157.500					

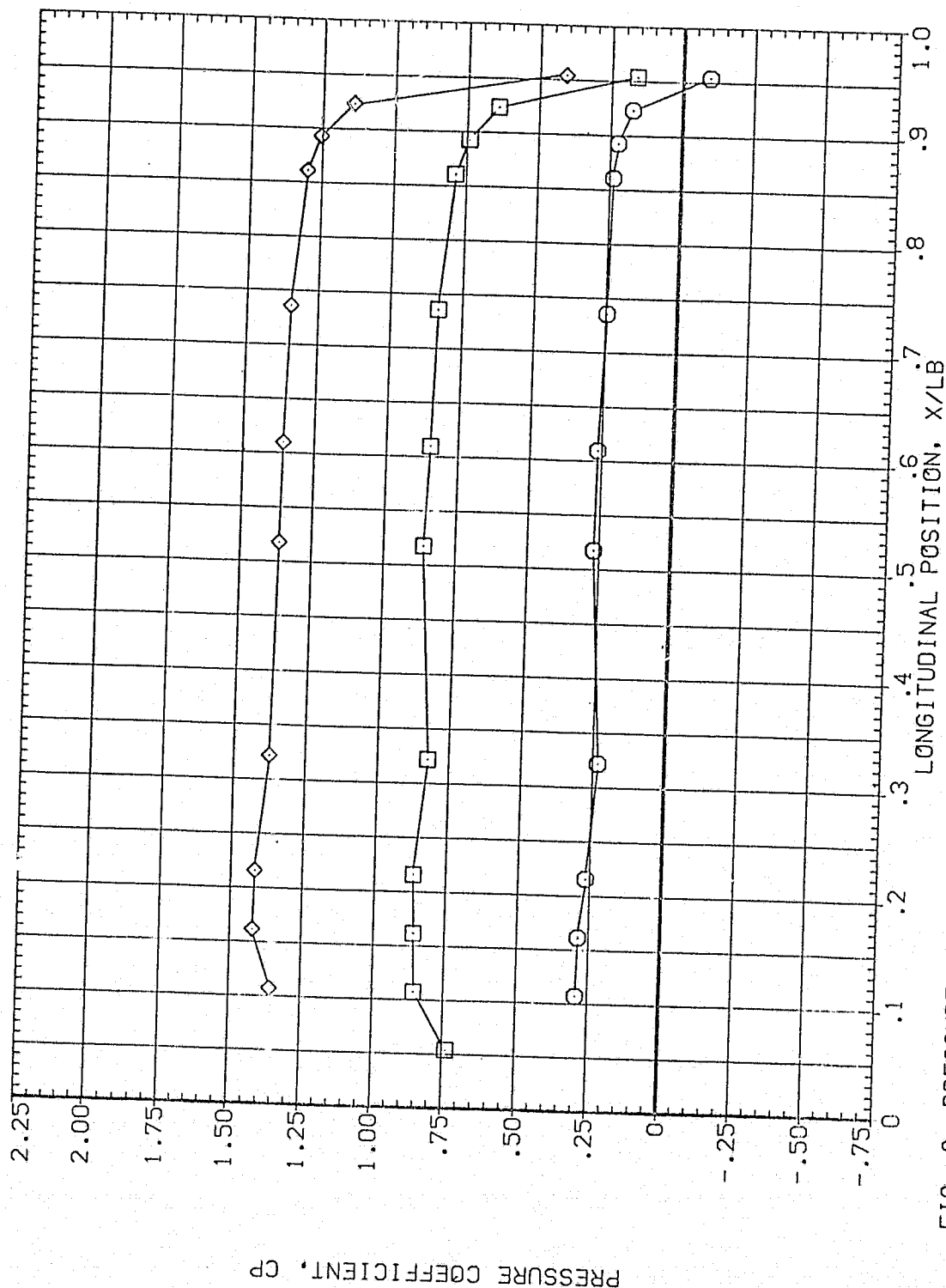


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL

THETA  
180.000  
202.500  
225.000

ALPHA  
77.860

MACH  
1.960

PARAMETRIC VALUES  
.000 OFFSET  
2.000 PHI  
80.000  
.000

BETA  
MOUNT

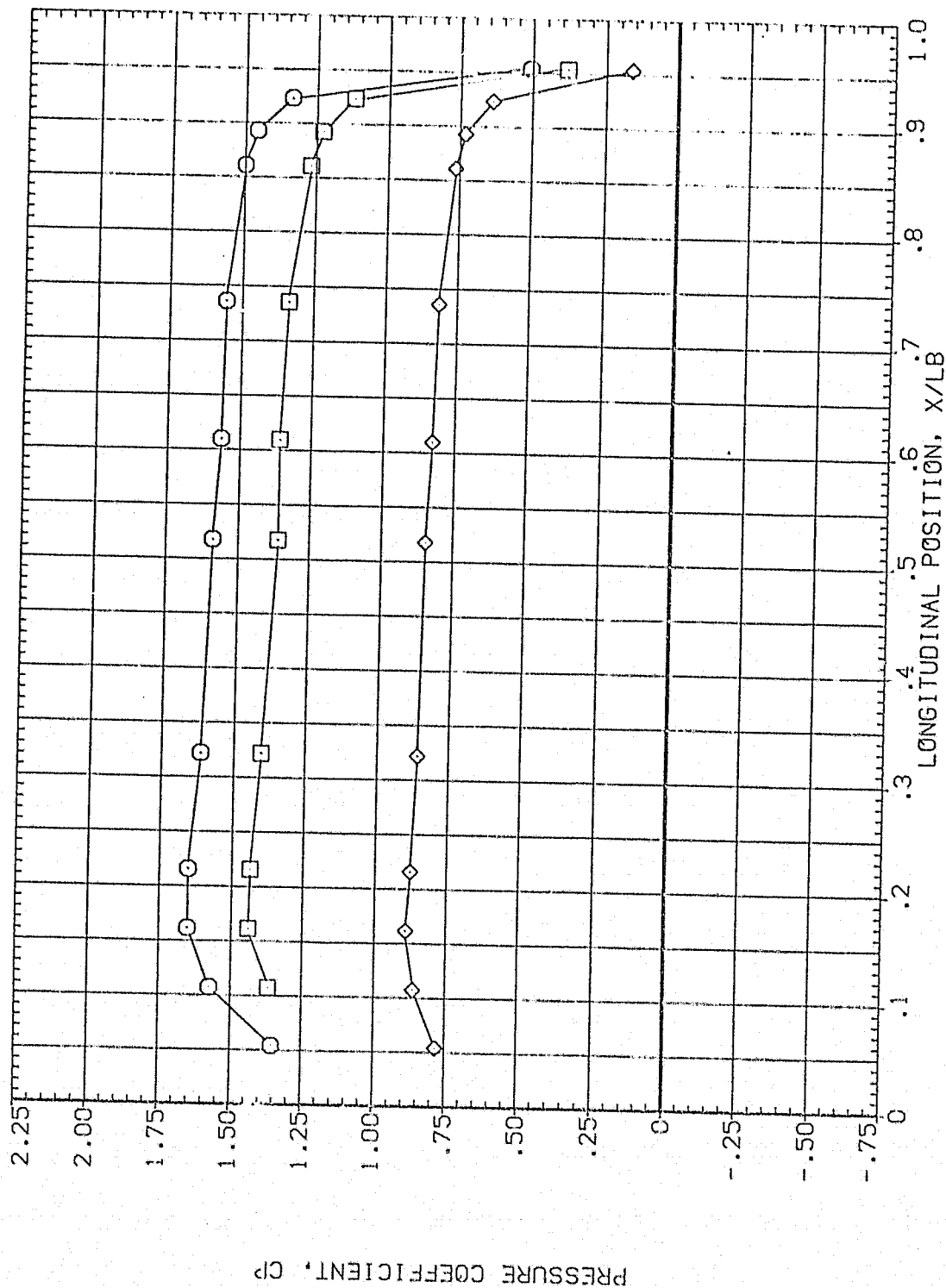


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	77.860	1.960	MCOUNT	.000
□	270.000			PH:	2.000
◇	292.500				.000

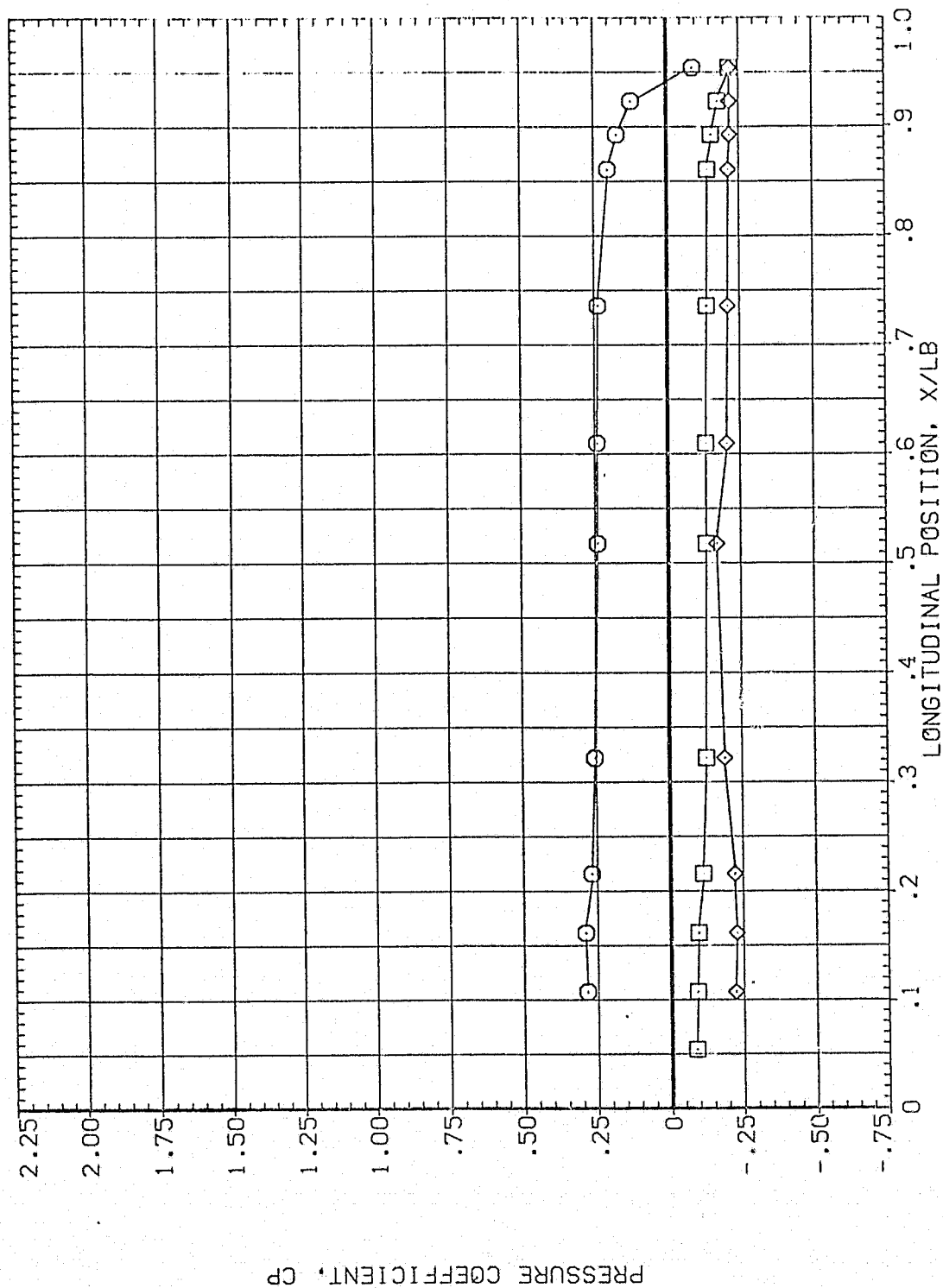


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL    THETA    ALPHA    MACH  
 ○    315.000    77.860    1.960  
 □    325.000  
 ◇    345.000

PARAMETRIC VALUES  
 BETA    .000    OFFSET    80.000  
 MOUNT    2.000    PHI    .000

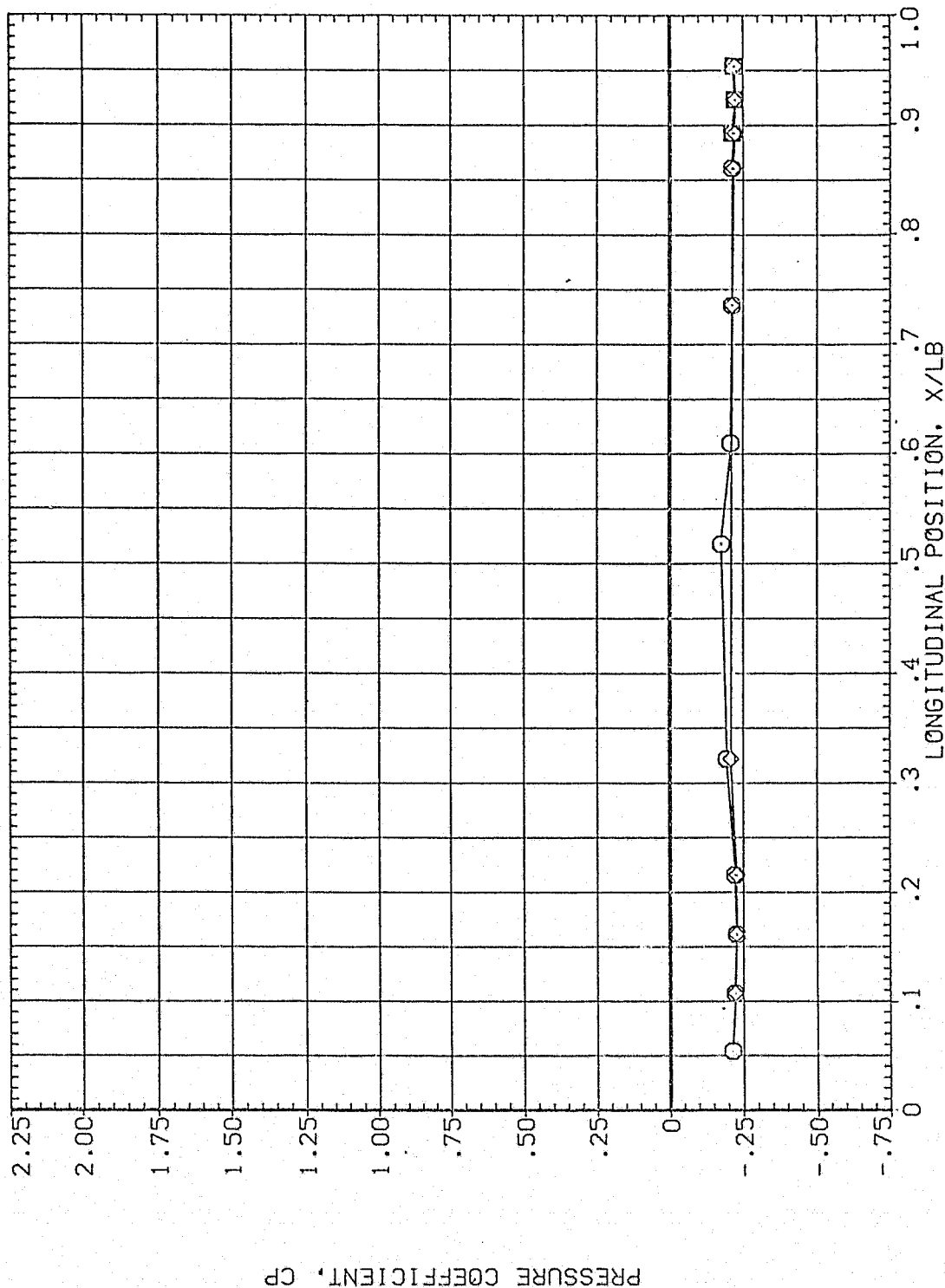


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	PARAMETRIC VALUES		
	THETA	ALPHA	MACH
○	.000	79.930	1.970
□	14.000		
◇	24.000		
	BETA MOUNT	2.000	PHI
		90.000	.000

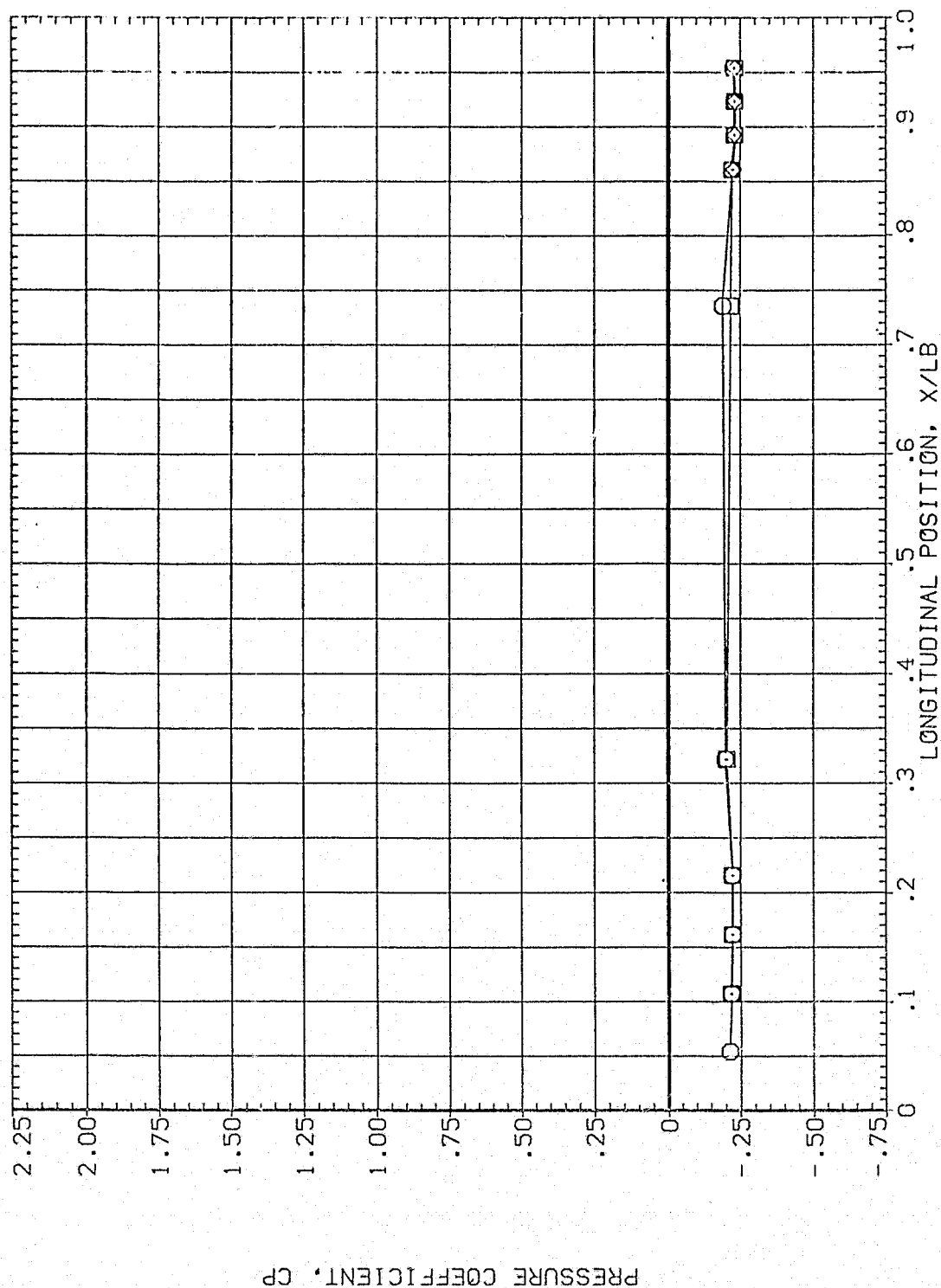


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL THETA ALPHA MACH  
 O 45.000 79.930 1.970  
 □ 67.500  
 ◇ 90.000

PARAMETRIC VALUES  
 .000 OFFSET  
 2.000 PHI  
 90.000  
 .030

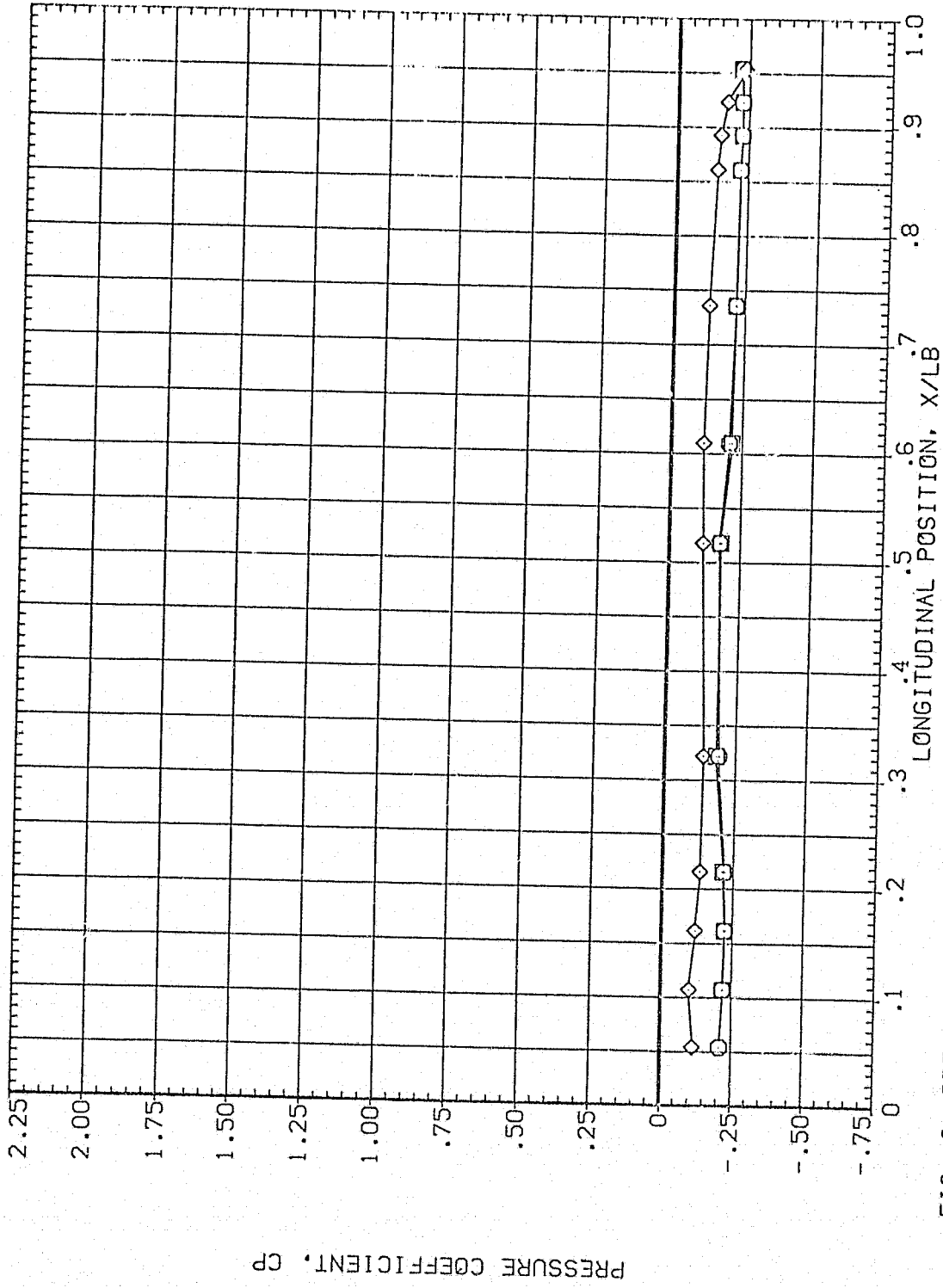


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSEC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
					.000	OFFSET	90.000
◇	112.500	79.930	1.970	MOUNT	2.000	PHI	.000
□	135.000						
○	157.500						

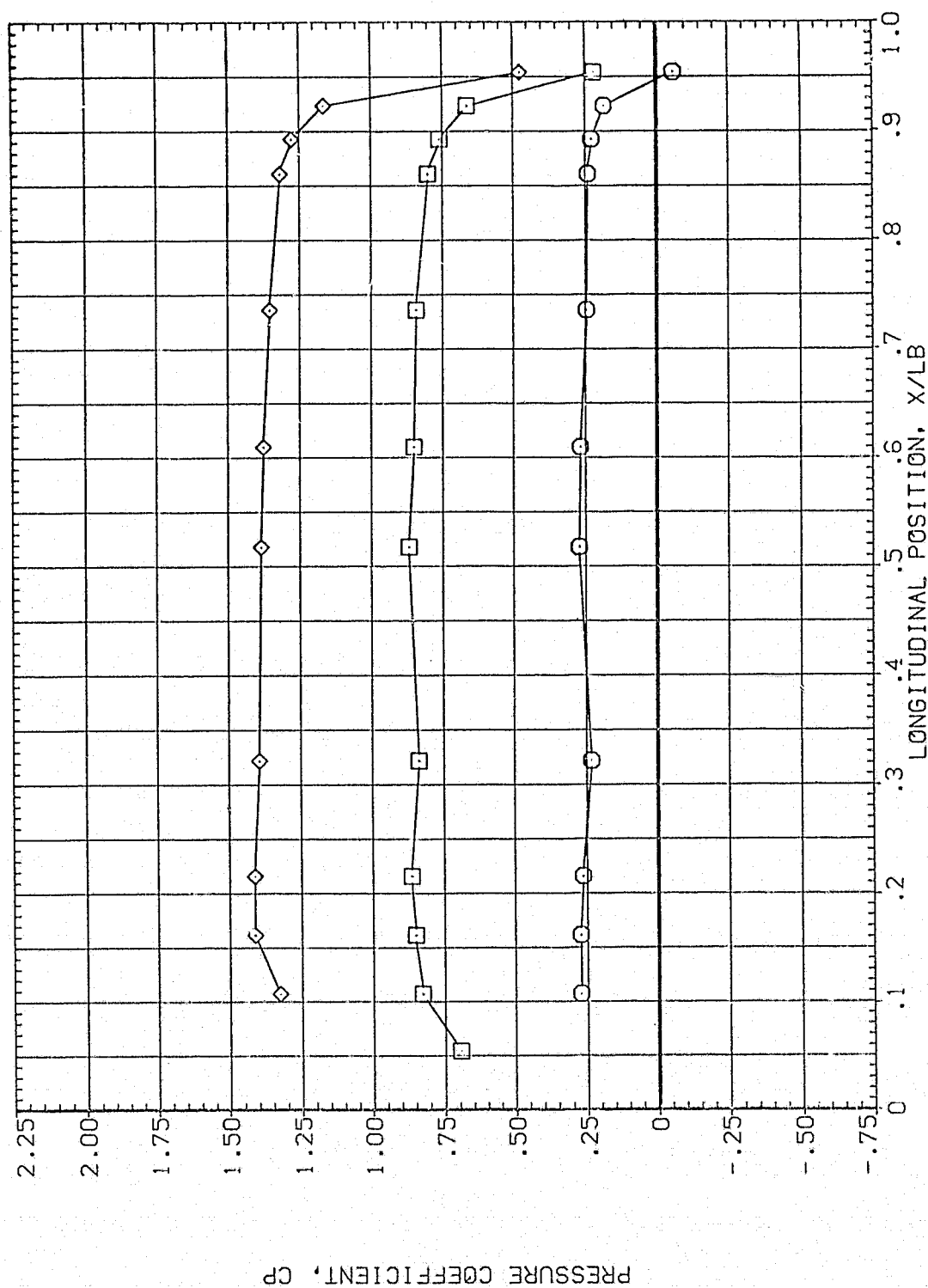


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(P1A072)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
○  
□  
◇

THETA  
180.000  
202.500  
225.000

ALPHA  
79.930

MACH  
1.970

BETA  
MOUNT

PARAMETRIC VALUES  
90.000  
OFFSET  
2.000  
PHI  
.000

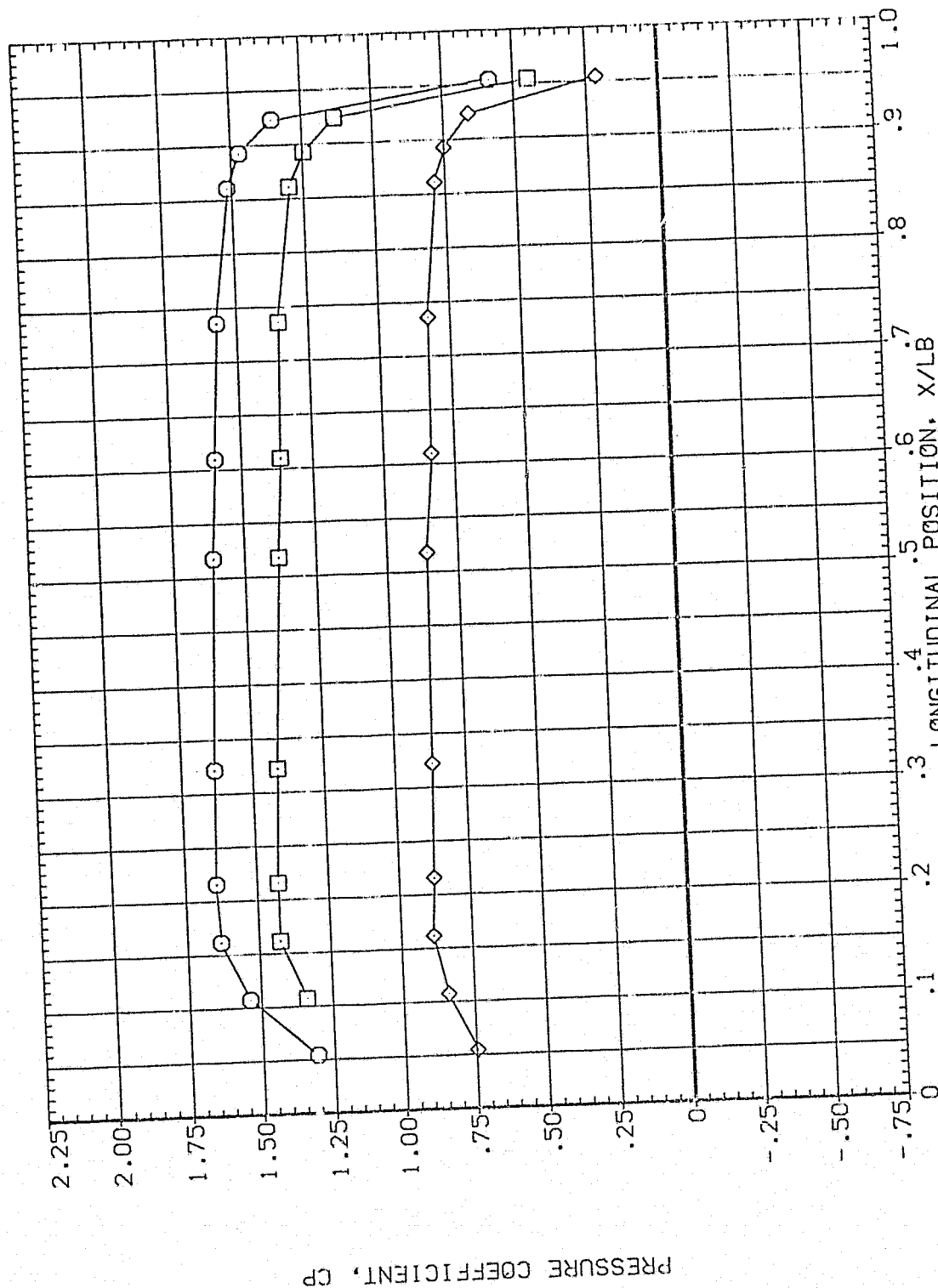


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	79.930	1.970	MOUNT	.000
□	270.000				2.000
◇	292.500				PHI
					90.000
					OFFSET
					.000

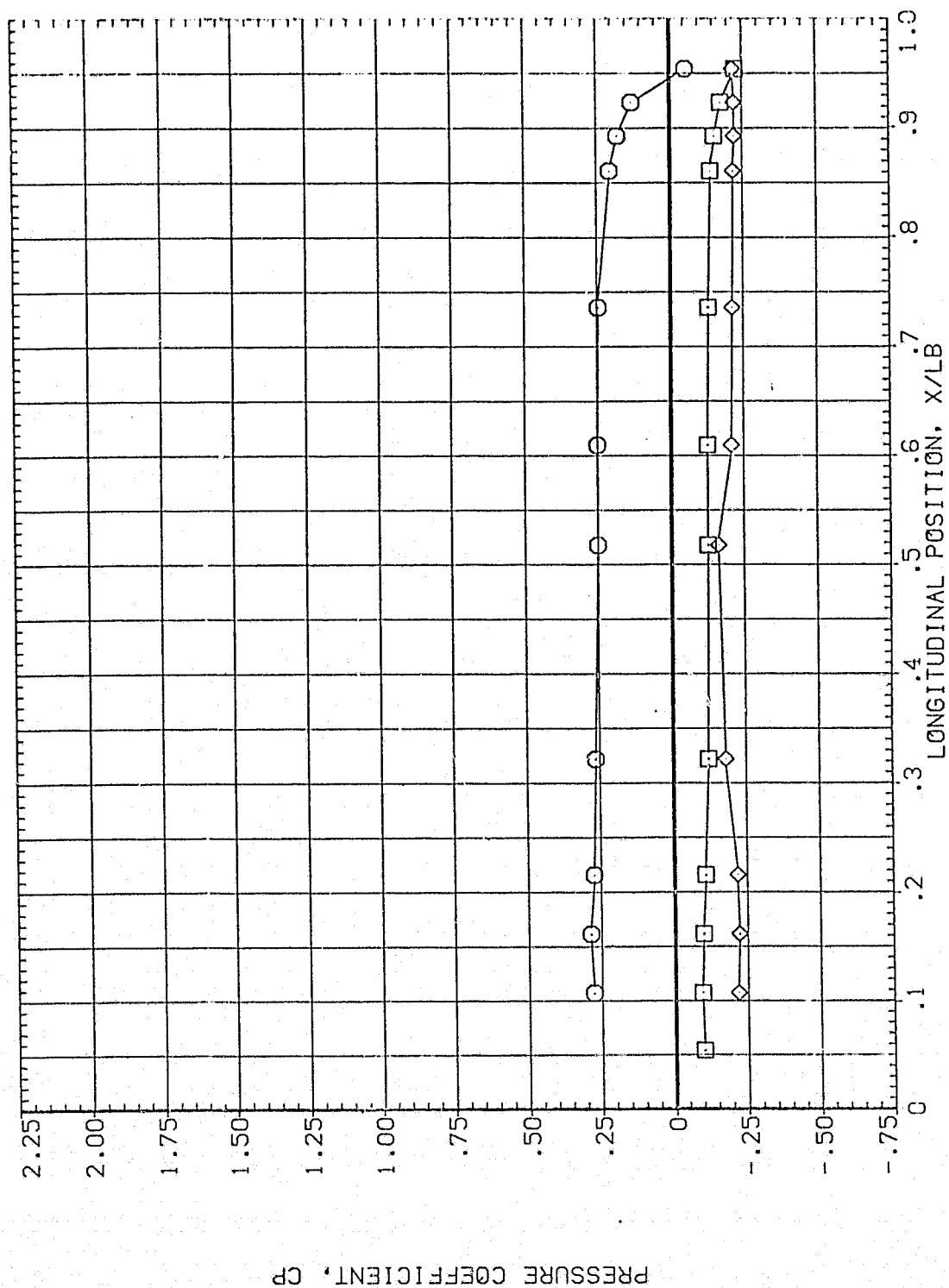


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	315.000	79.930	1.370	MOUNT	.000	90.000
□	326.000				2.000	.000
◇	346.000					

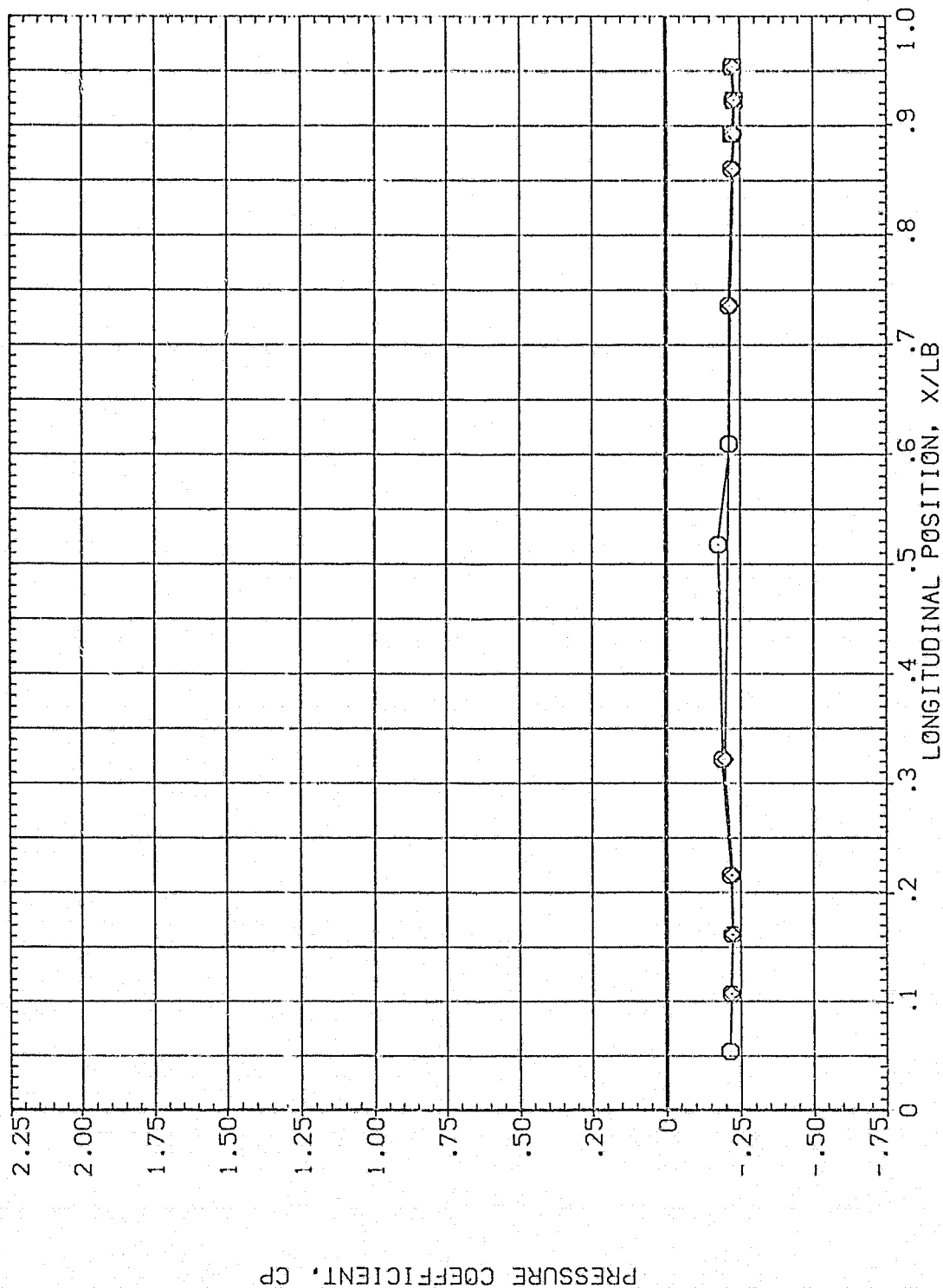


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL  
 ○ □ ◇

THETA .000  
 ALPHA 81.830  
 MACH 1.970

BETA MOUNT  
 PARAMETRIC VALUES  
 .000 2.000 90.000  
 PHI .000

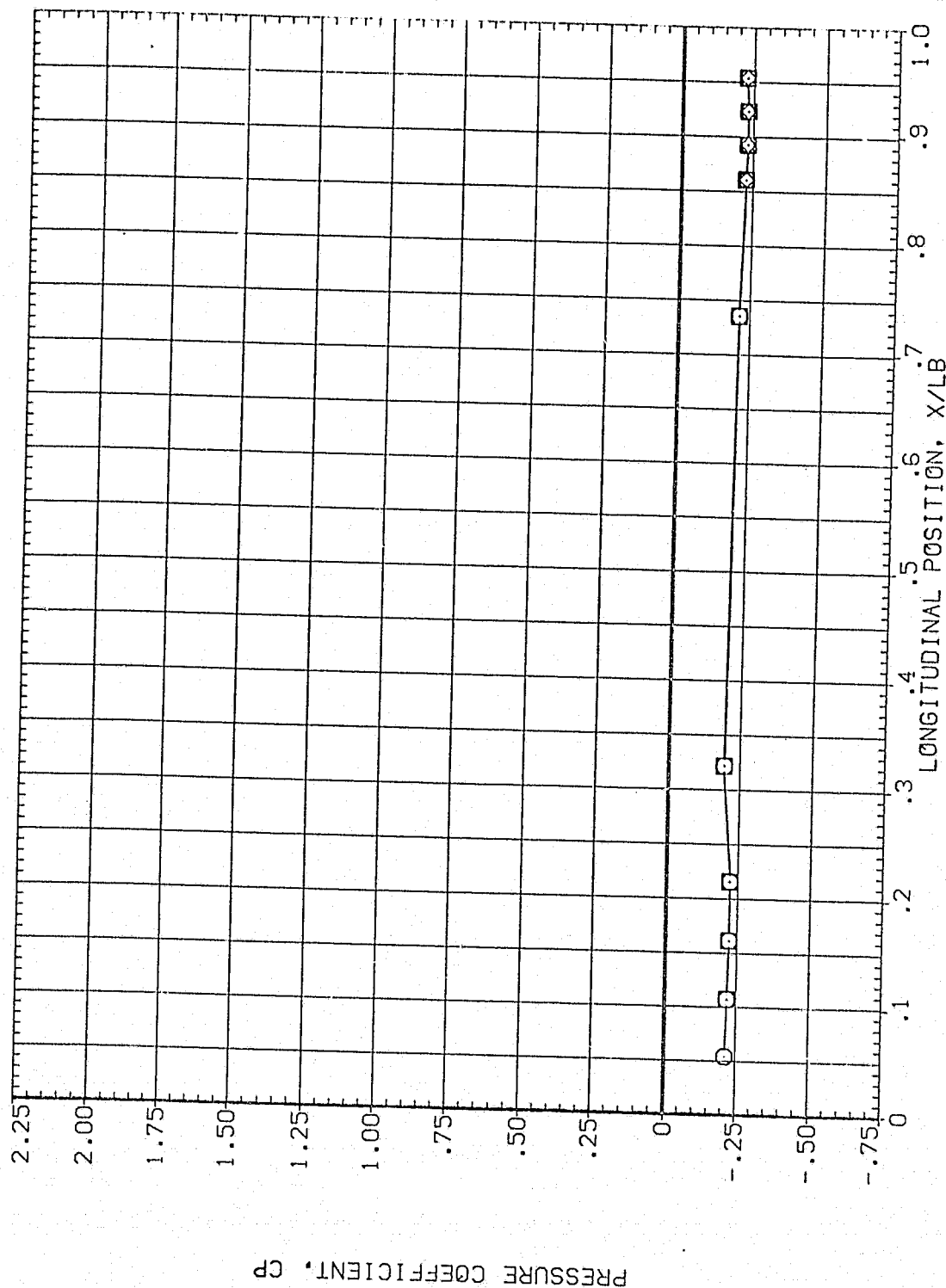


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	PARAMETRIC VALUES	
	BETA	OFFSET
○	2.000	.000
□	2.000	.000
◇	2.000	.000

THETA	ALPHA	MACH
45.000	81.830	1.970
67.500		
90.000		

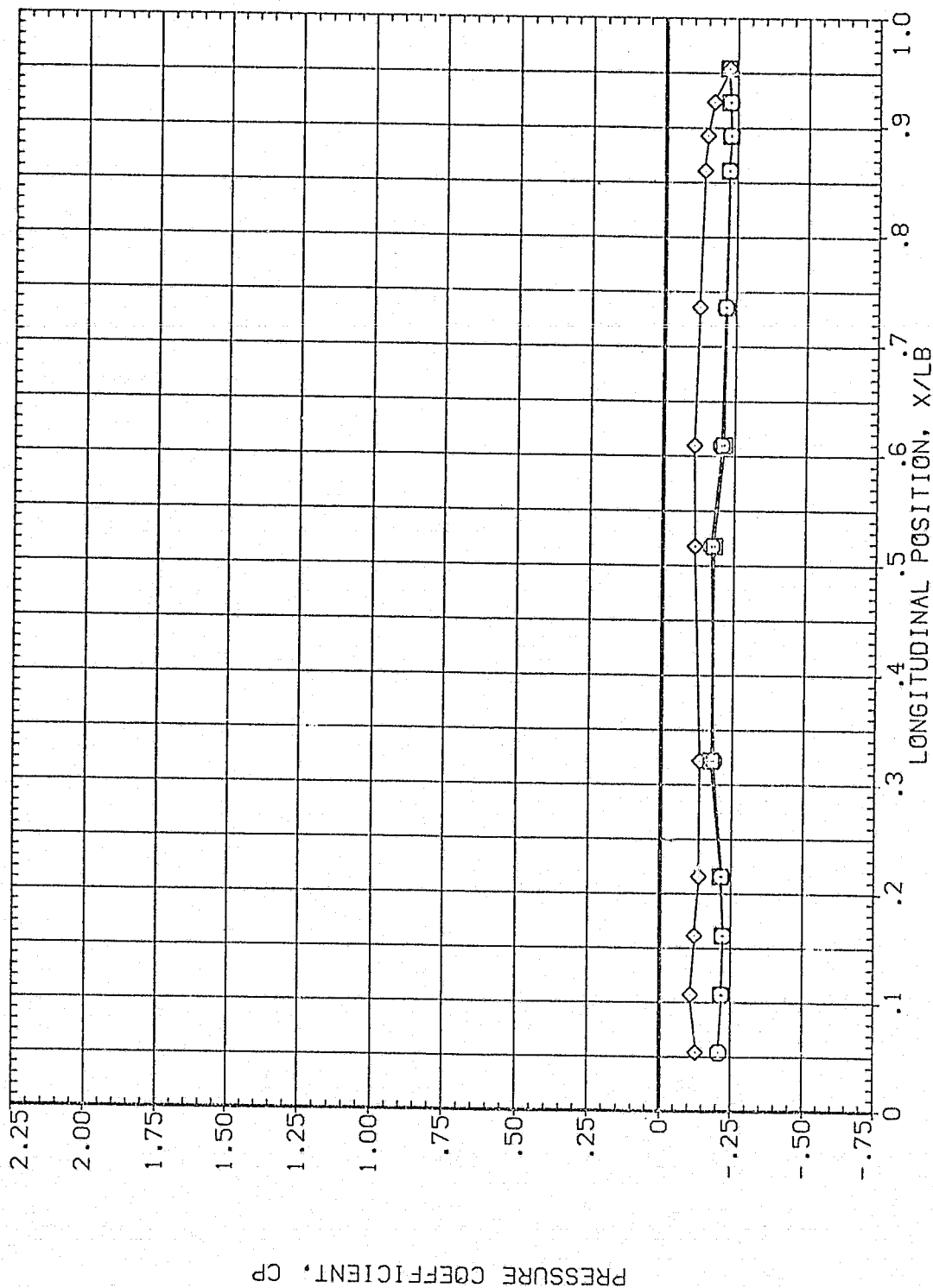


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA MOUNT	OFFSET PHI	90.000 .000
○	112.500	81.830	1.970			
□	135.000					
◇	157.500					

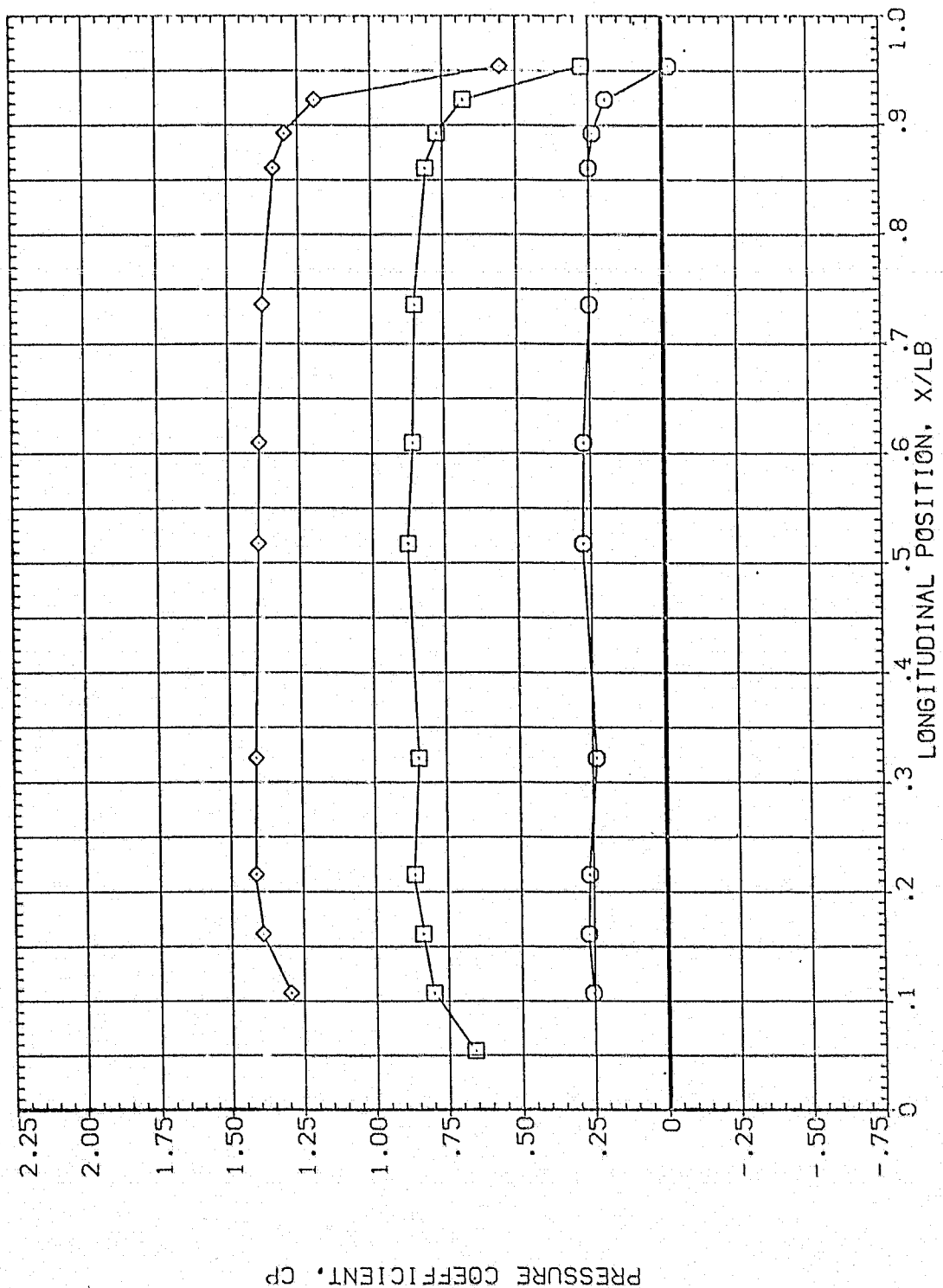


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	81.839	1.970	MCOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				90.000

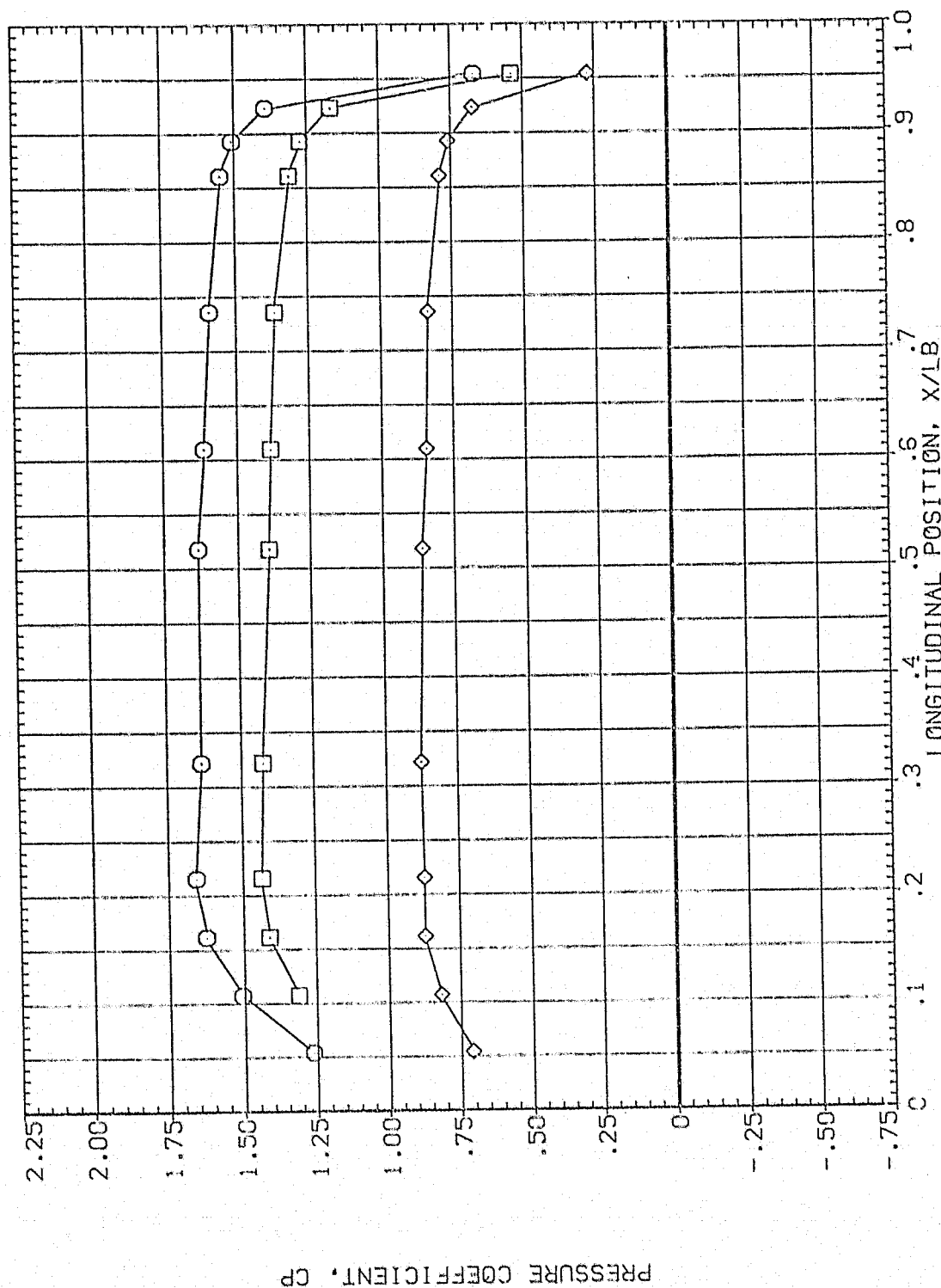


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
PHI 90.000  
OFFSET .000

SYMBOL THETA ALPHA MACH  
○ 247.500 81.830 1.970  
□ 270.000  
◇ 292.500

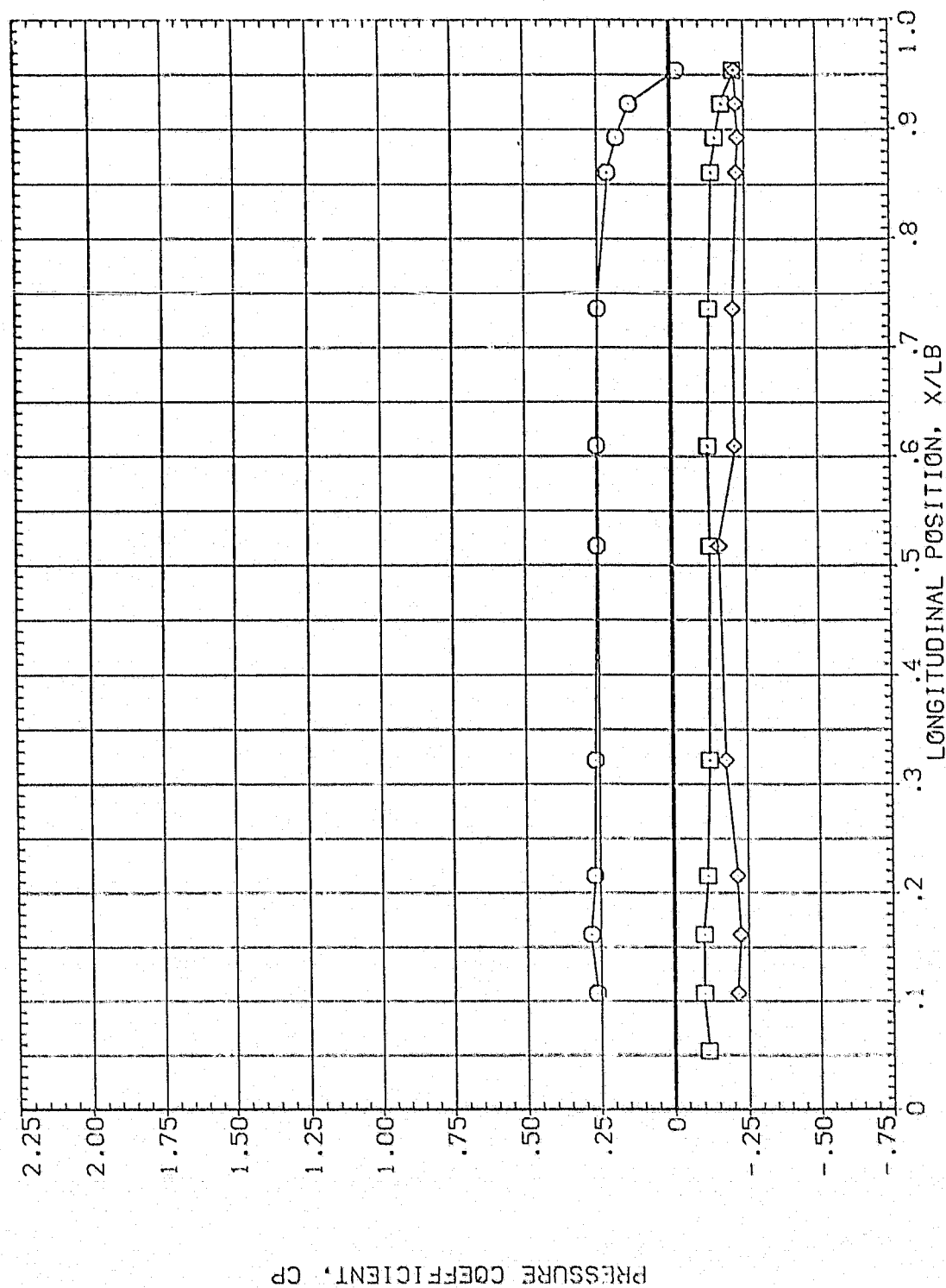


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

# NSFC 598 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL    THETA    ALPHA    MACH  
 O    315.000    81.830    1.970  
 □    326.000  
 ◇    346.000

PARAMETRIC VALUES  
 BETA    .000    OFFSET    90.000  
 PCOUNT    2.000    PHI    .000

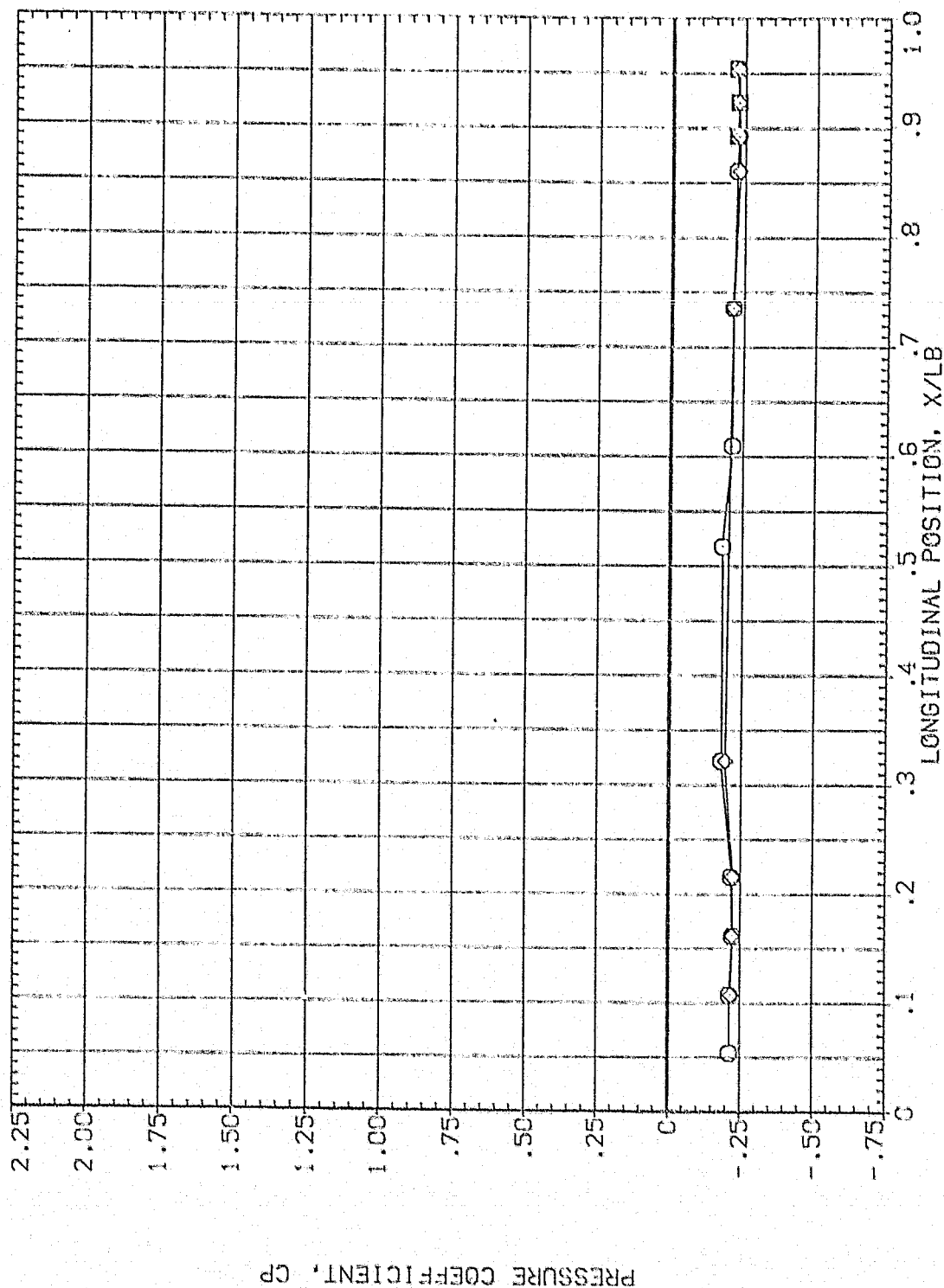


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA074)

SYMBOL  
 ○  
 □  
 ◇

THETA  
 .000  
 14.000  
 24.000

ALPHA  
 84.830

MACH  
 1.970

BETA  
 MCUNT

PARAMETRIC VALUES  
 .000  
 2.000  
 90.000  
 OFFSET  
 PHI  
 .000

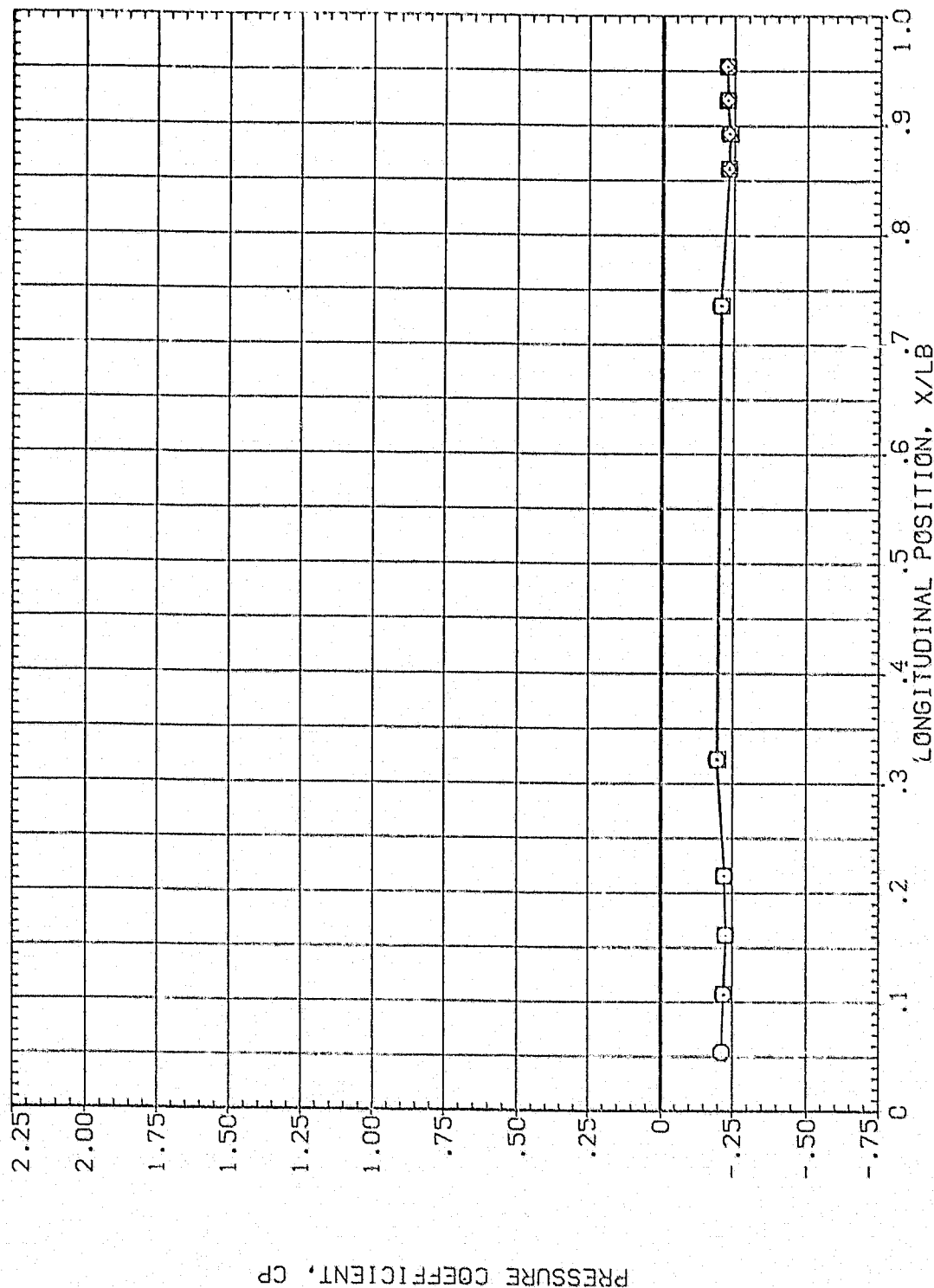


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL THETA ALPHA MACH  
 O 45.000 84.830 1.970  
 □ 67.500  
 ◇ 90.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000

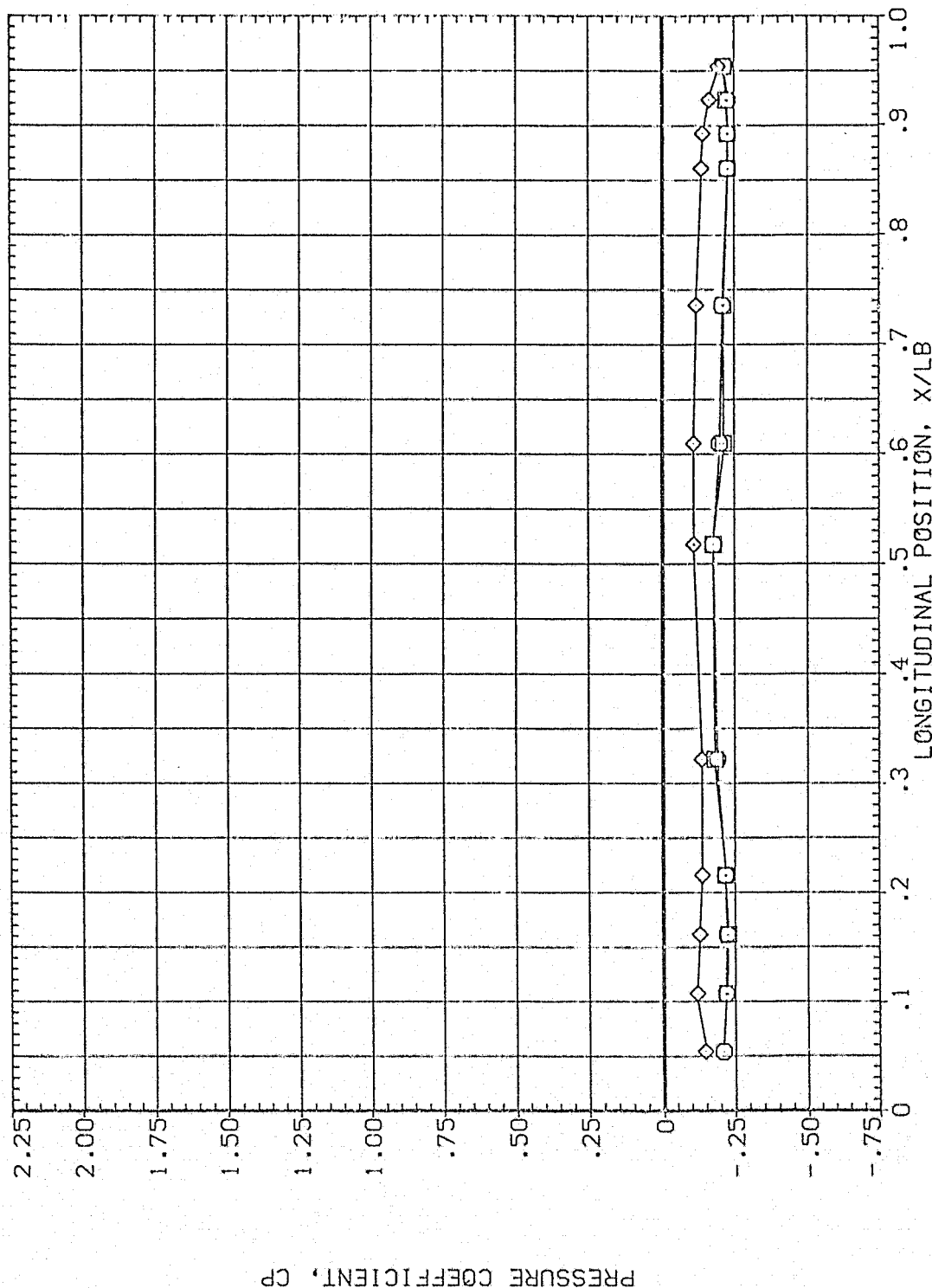


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	84.830	1.970	2.000	.000	.000
□	135.000					
◇	157.500					

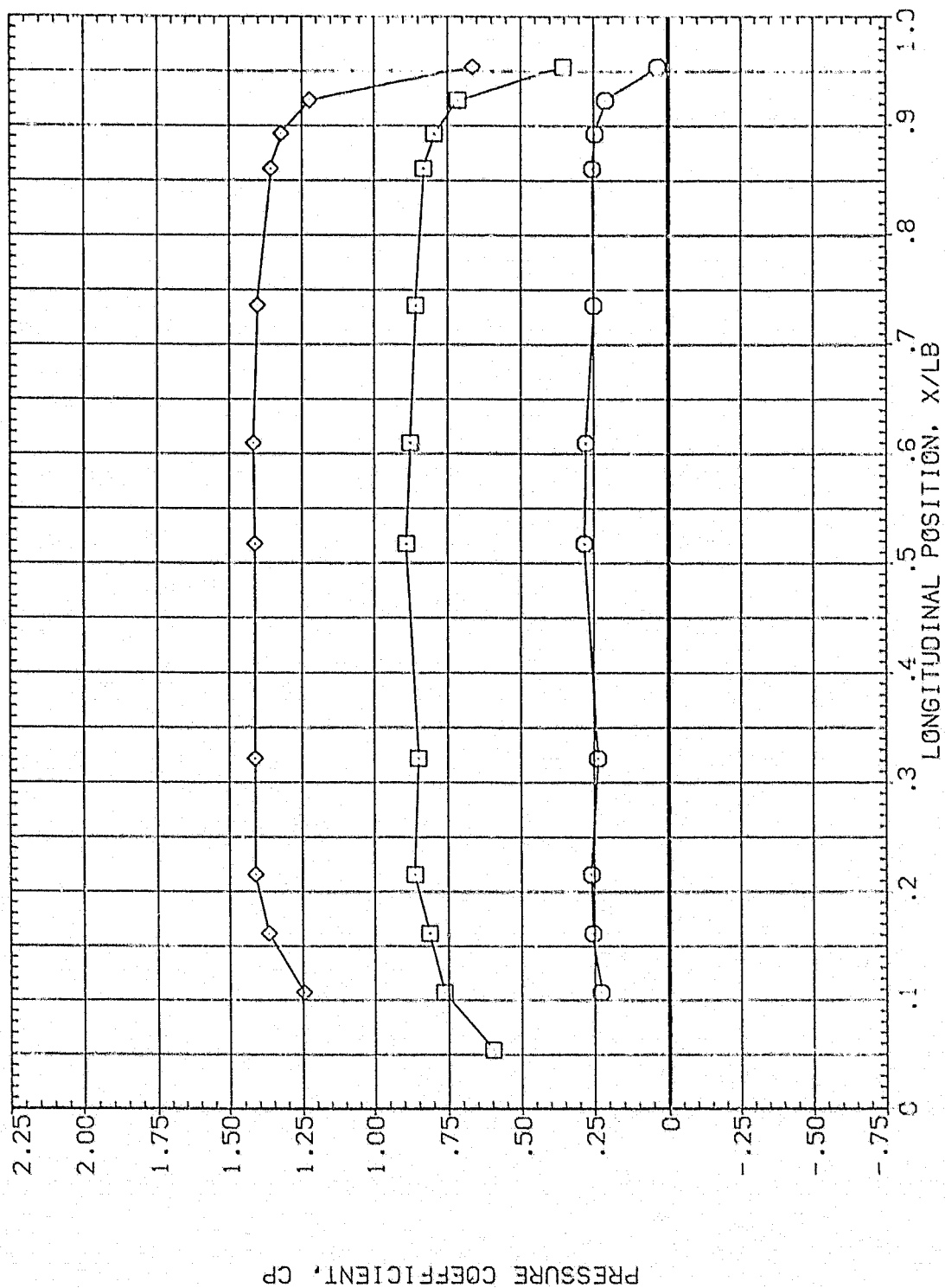


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	180.000	84.830	1.970	MOUNT	.000	.000
□	202.500				2.000	
◇	225.000					

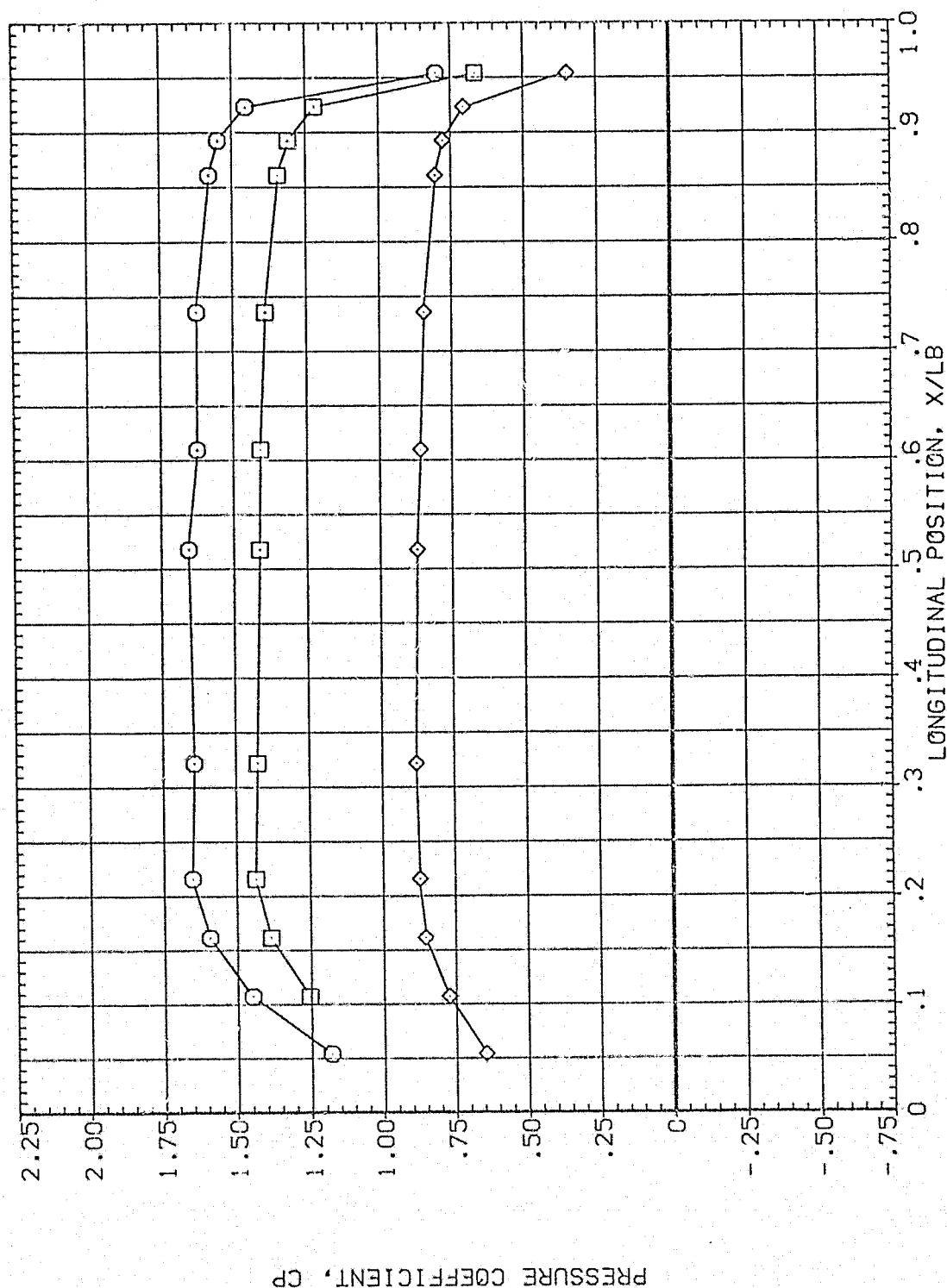


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	84.830	1.970	2.000	.000	90.000
□	270.000					.000
◇	292.500					

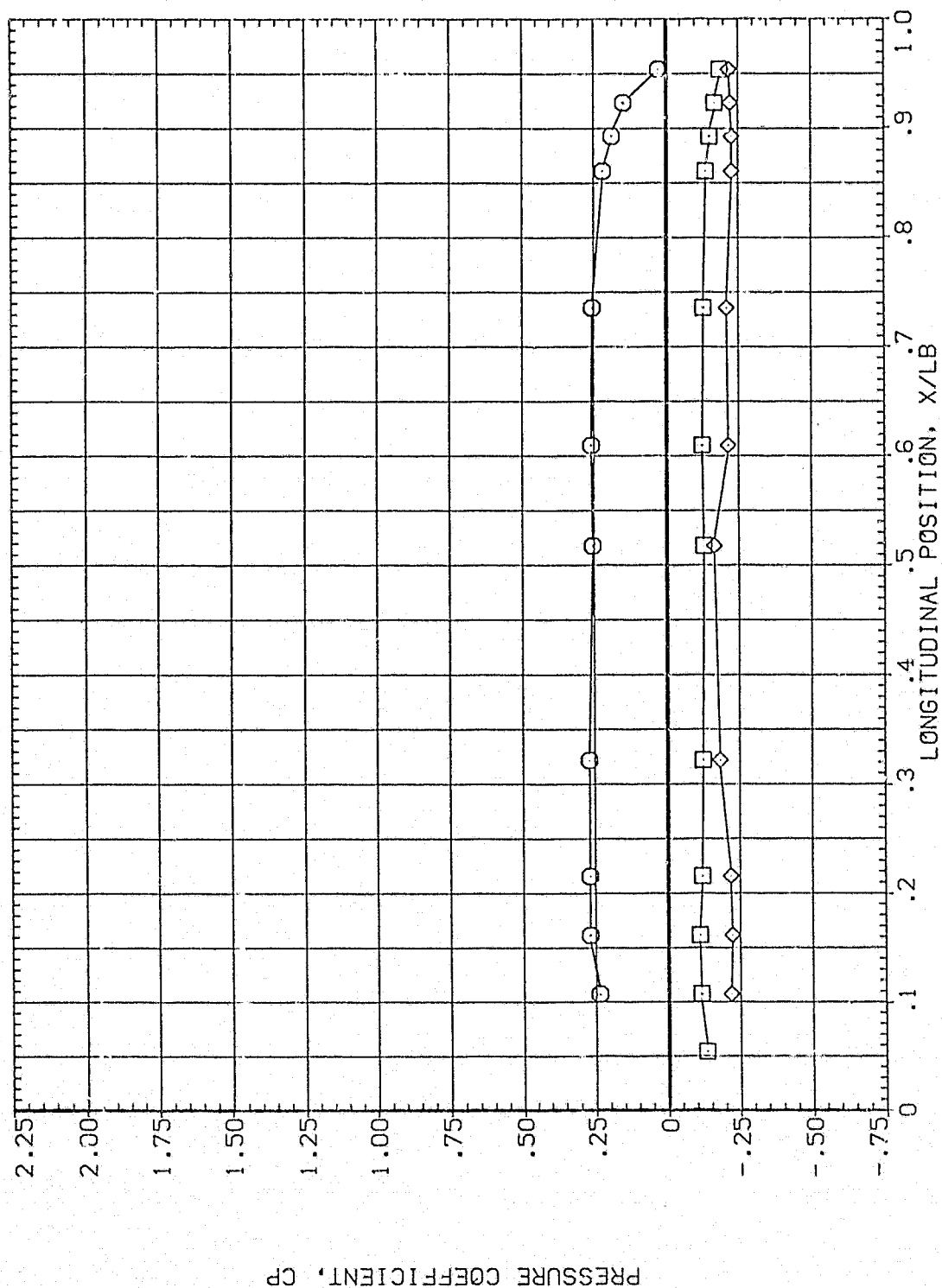


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	84.830	1.970	MOUNT	.000
□	326.000				2.000
◇	346.000				90.000
					PHI
					.000

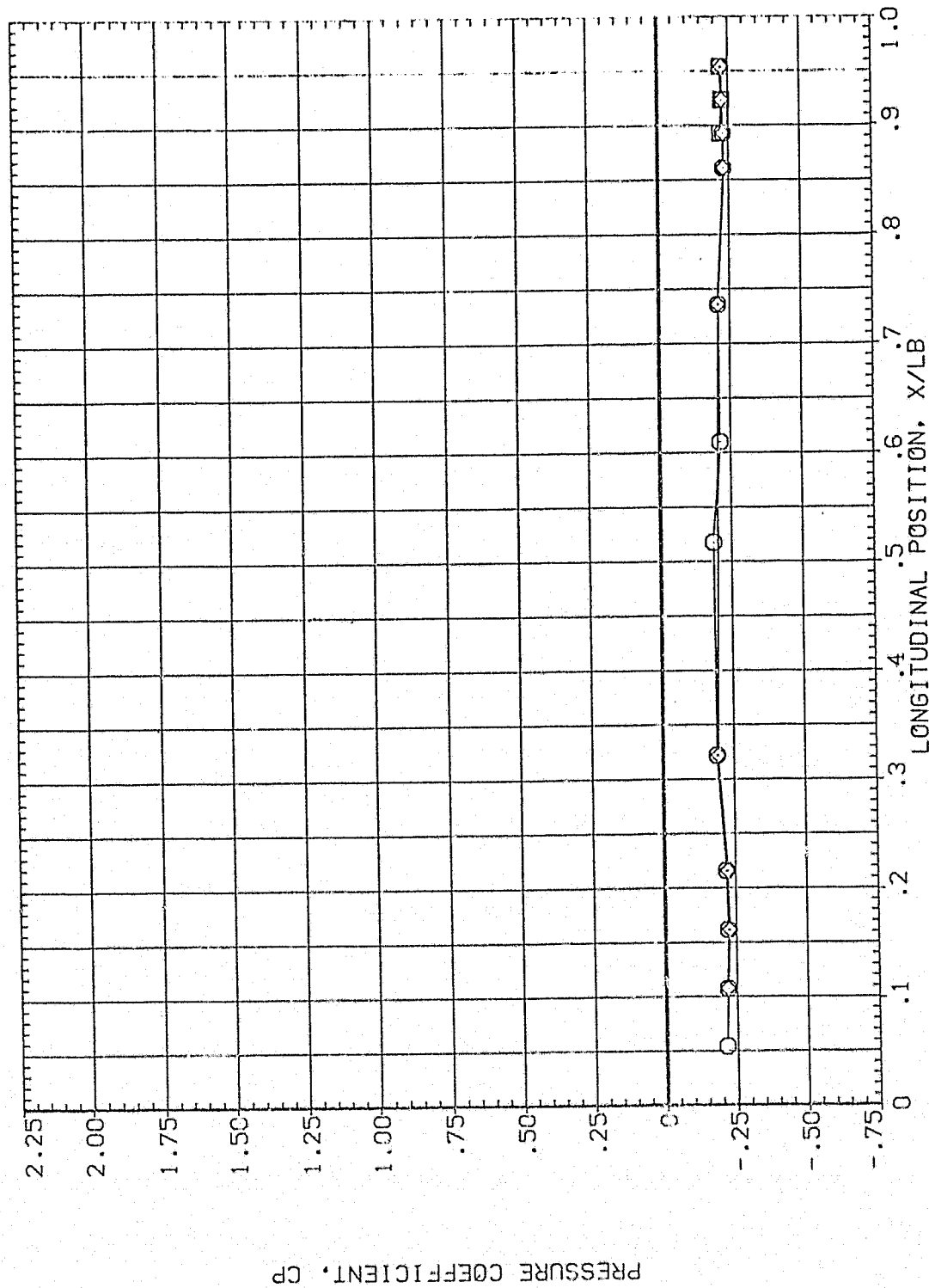


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

PARAMETRIC VALUES  
BETA .000 90.000  
MOUNT 2.000 PHI .000

THETA .000 MACH 1.970  
14.000  
24.000

SYMBOL  
□  
◇

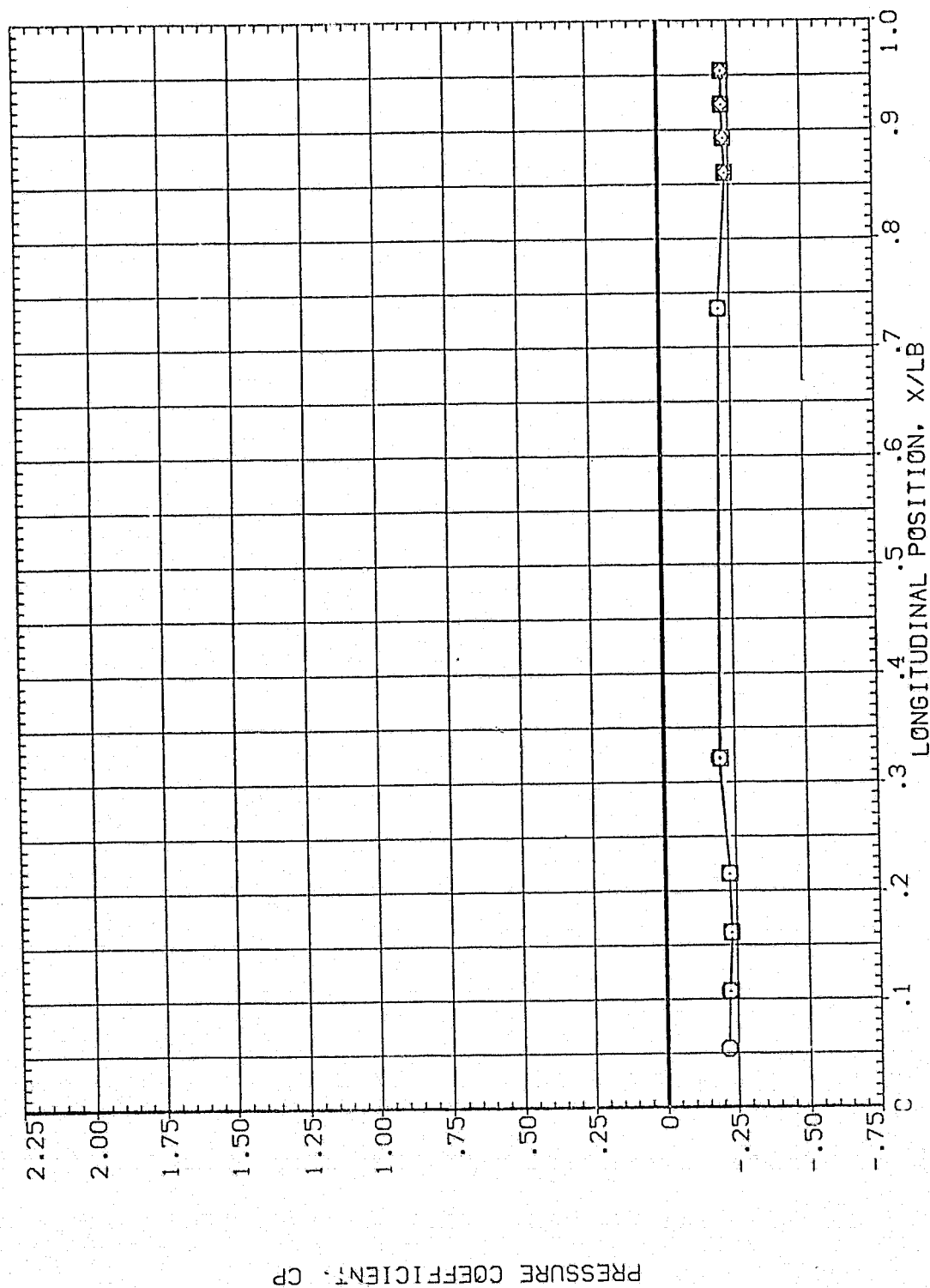


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

(P1A075)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

PARAMETRIC VALUES  
90.000  
.000  
PHI

BETA  
MOUNT

BETA  
MOUNT

THETA  
MACH

ALPHA  
87.830

45.000  
67.500  
90.000

SYMBOL  
◇  
□  
○

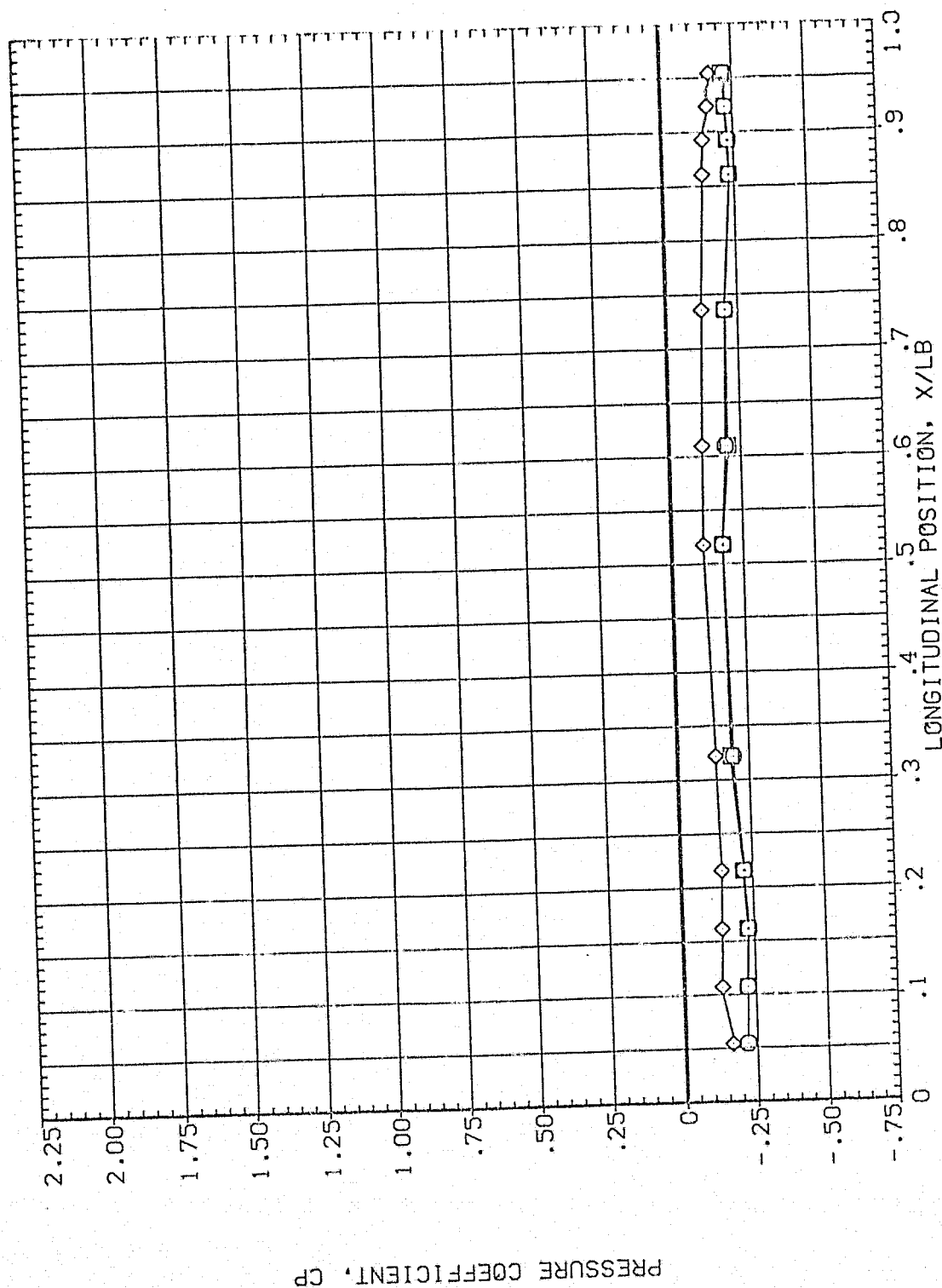


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK. T2 (P1A075)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	87.830	1.970	MOUNT	.000	90.000
□	135.000				2.000	
◇	157.500					.000

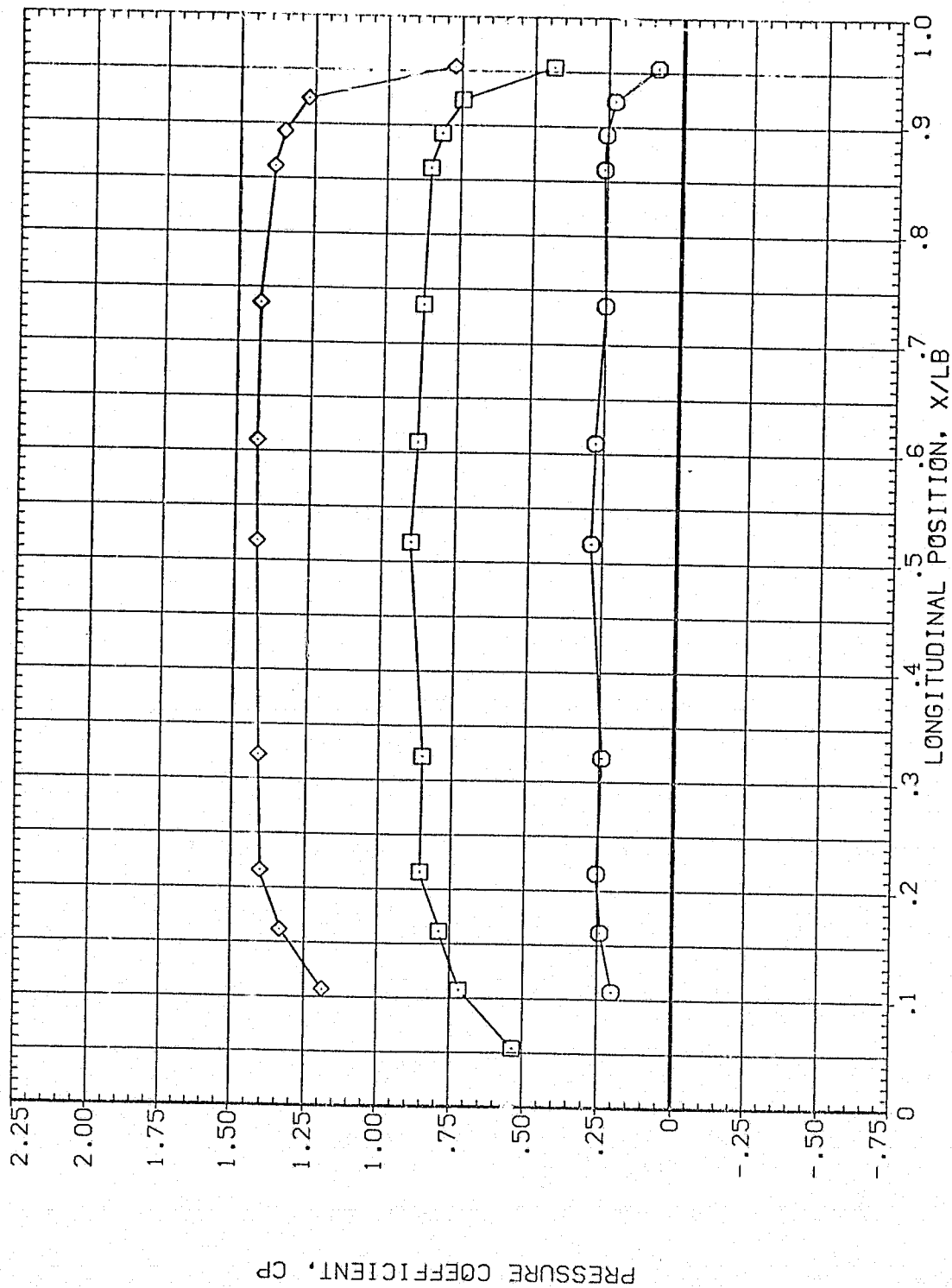


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA MOUNT	.000 2.000	OFFSET PHI .000
○	180.000	87.830	1.970			
□	202.500					
◇	225.000					

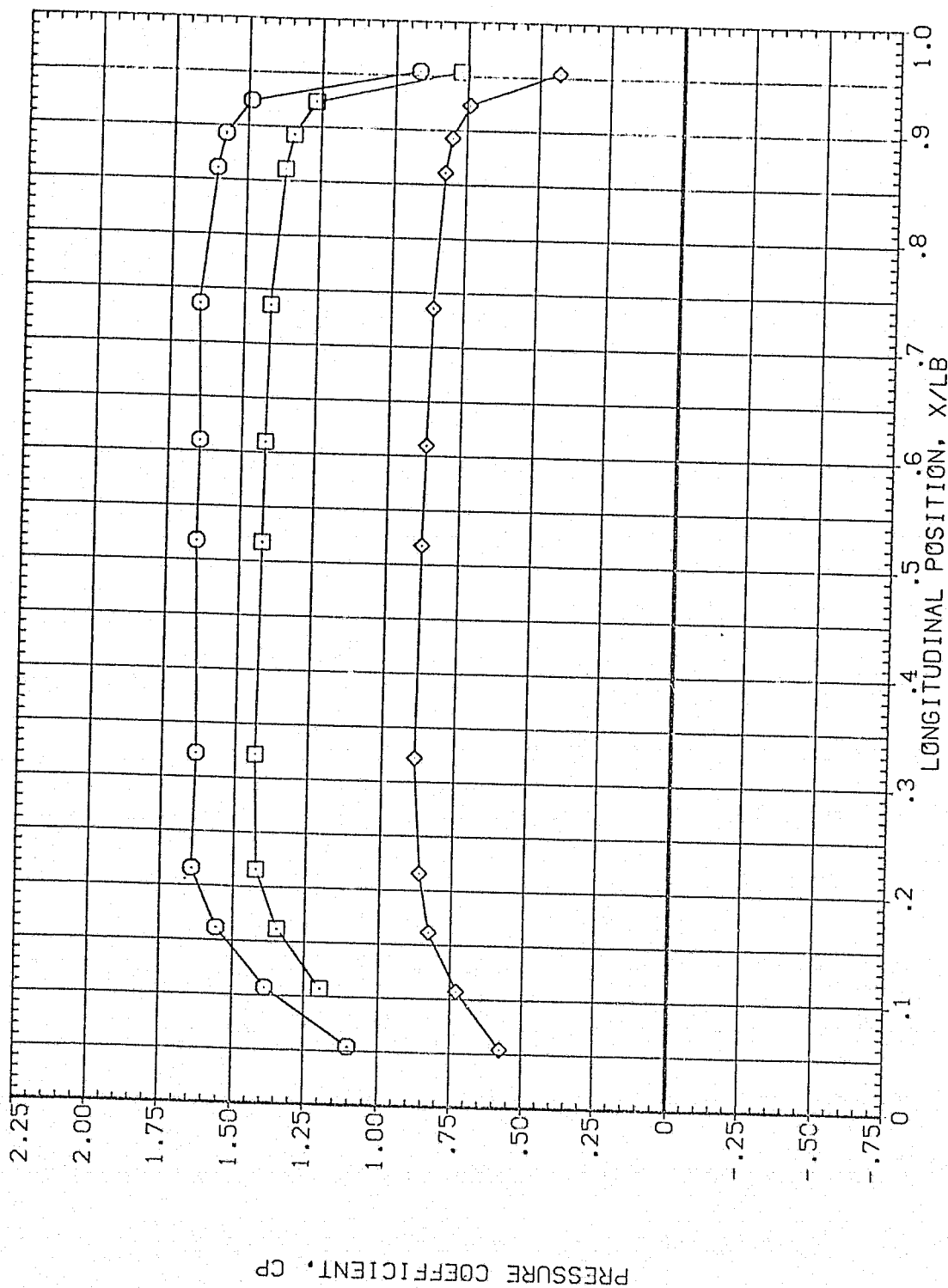


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	97.930	1.970	WOUND	.000
◇	270.000			PHI	2.000
◇	292.500				.000

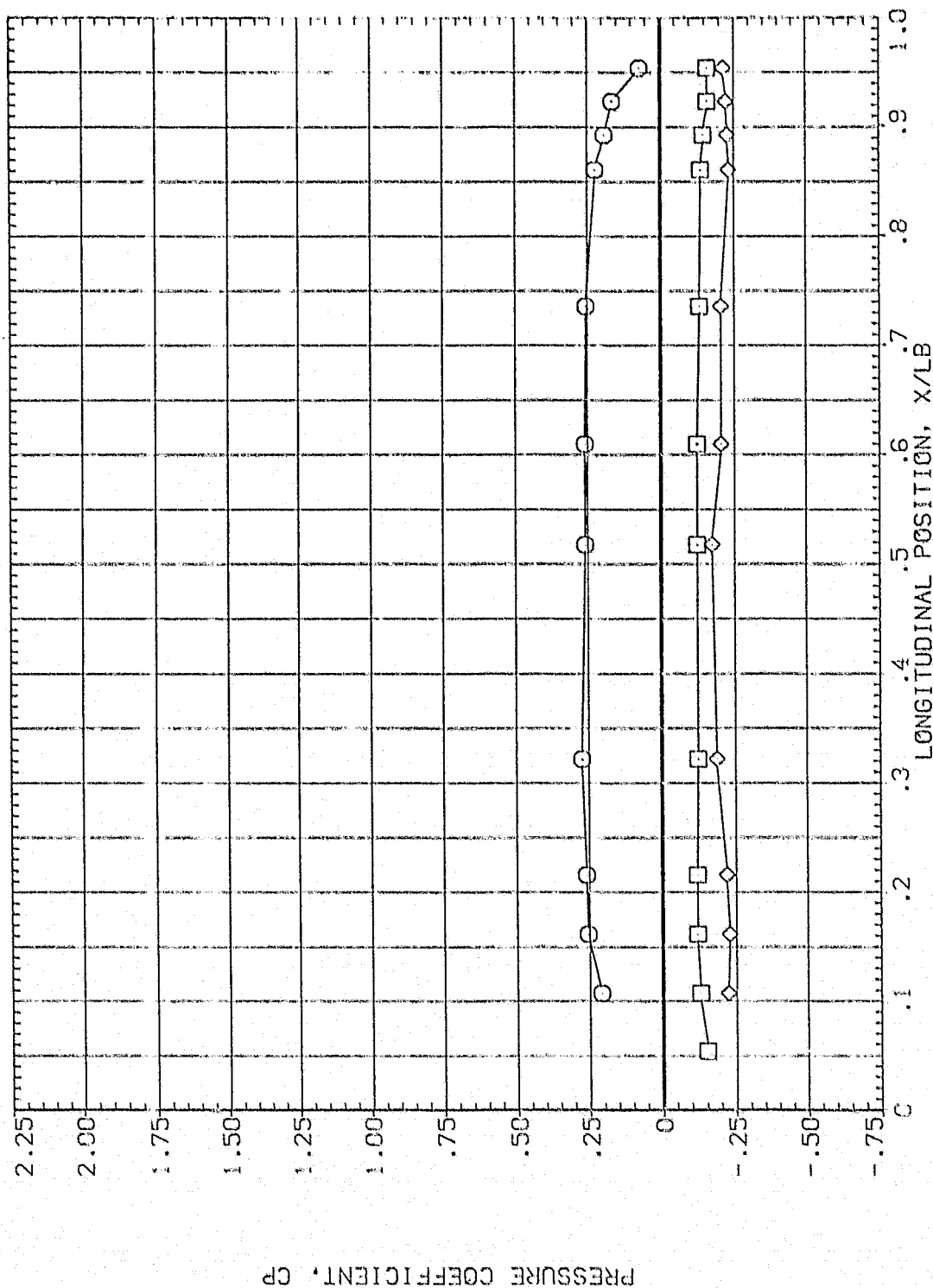


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
 .000 .000  
 2.000 .000  
 .000 .000

BETA  
 MOUNT

MACH  
 1.970

ALPHA  
 87.830

THETA  
 315.000  
 328.000  
 346.000

SYMBOL  
 □  
 ◇

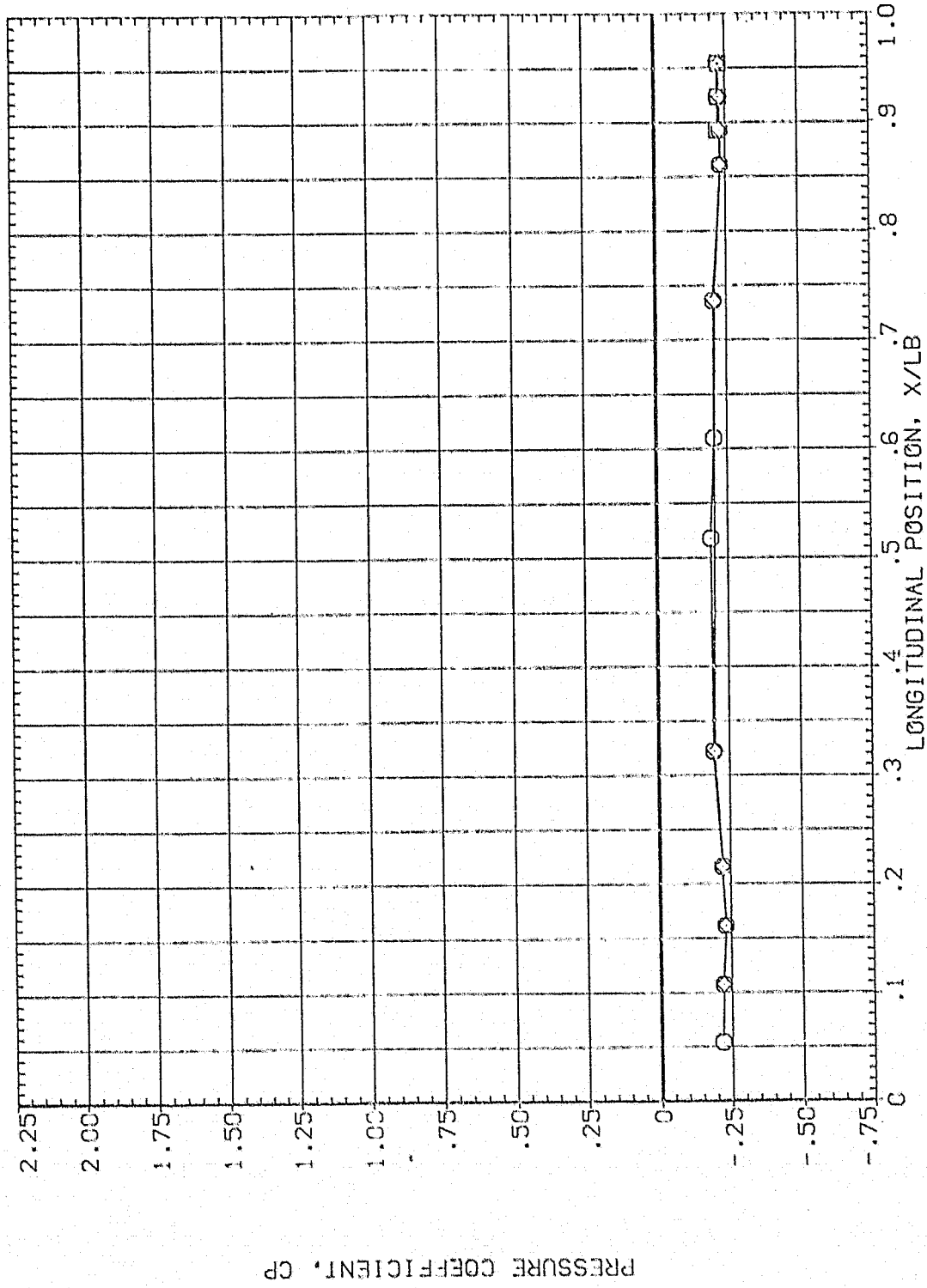


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 □  
 ○  
 ◇

THETA .000  
 14.000  
 24.000

ALPHA 89.830

MACH 1.960

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

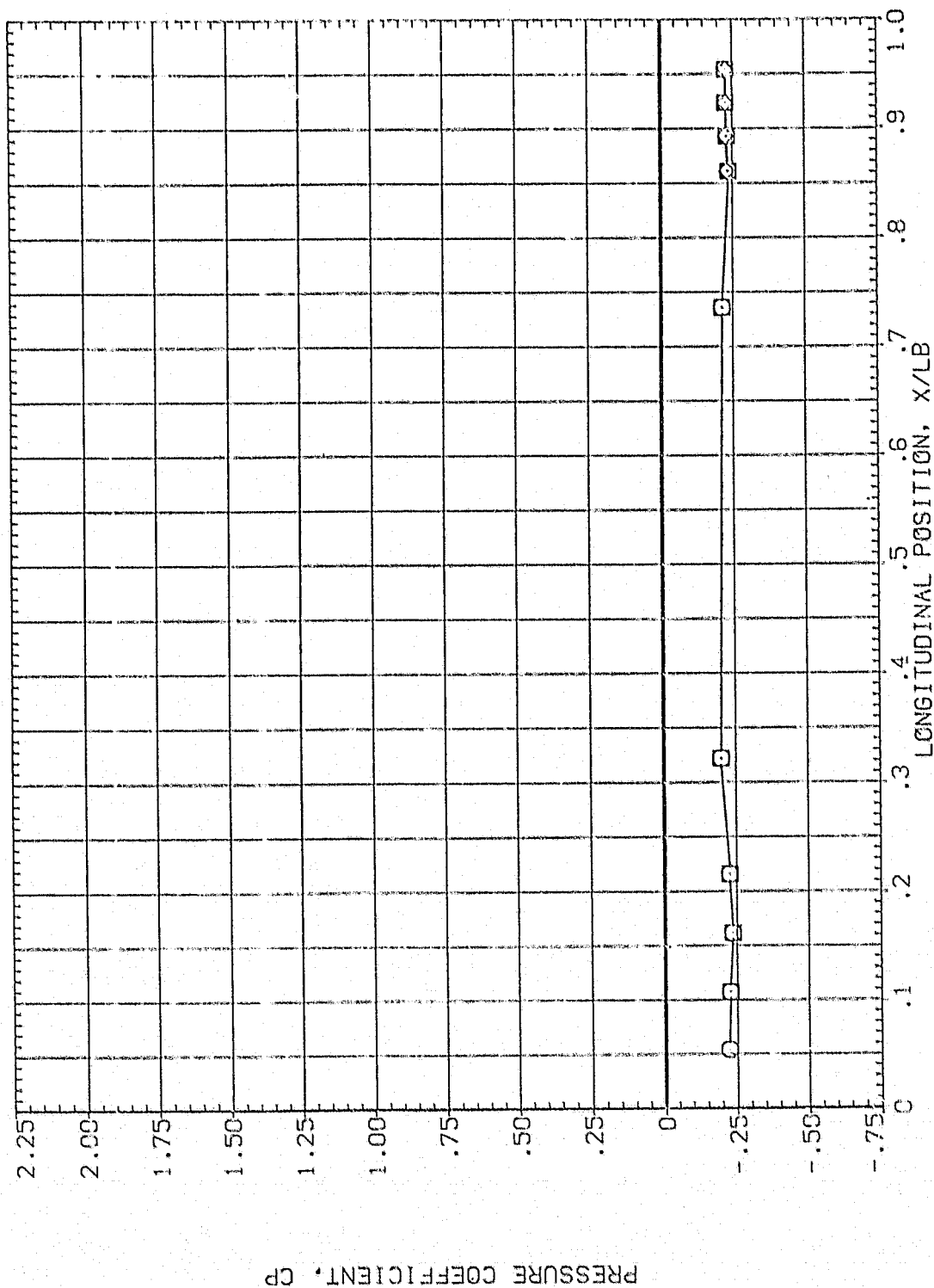


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
 BETA .000  
 MCOUNT 2.000  
 OFFSET PHI .000

THETA ALPHA MACH  
 45.000 89.830 1.980  
 67.500  
 90.000

SYMBOL  
 ◇  
 □  
 ○

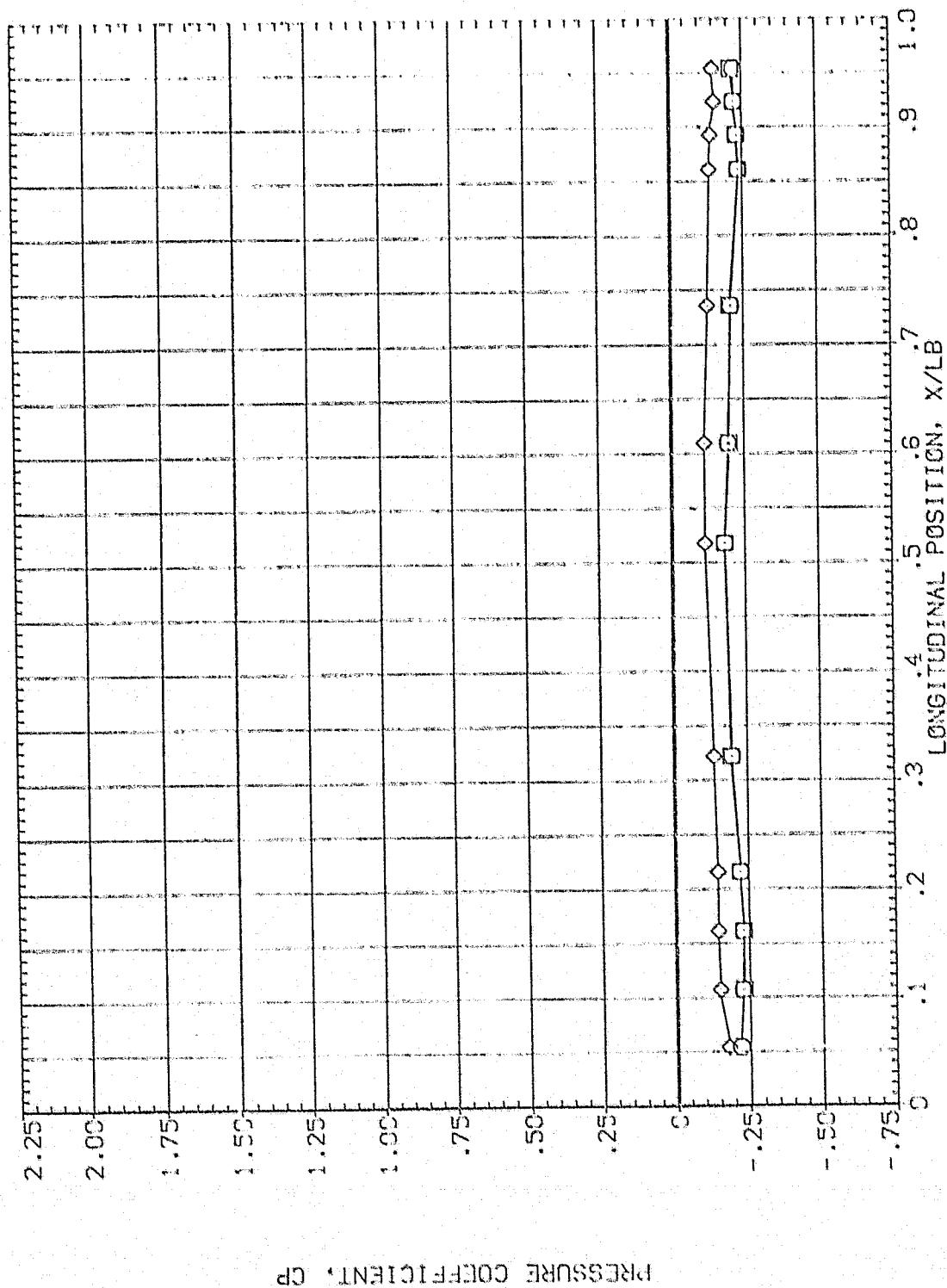


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	112.500	89.839	1.960	MCOUNT	.000
□	135.000			OFFSET	90.000
◇	157.500			PHI	.000

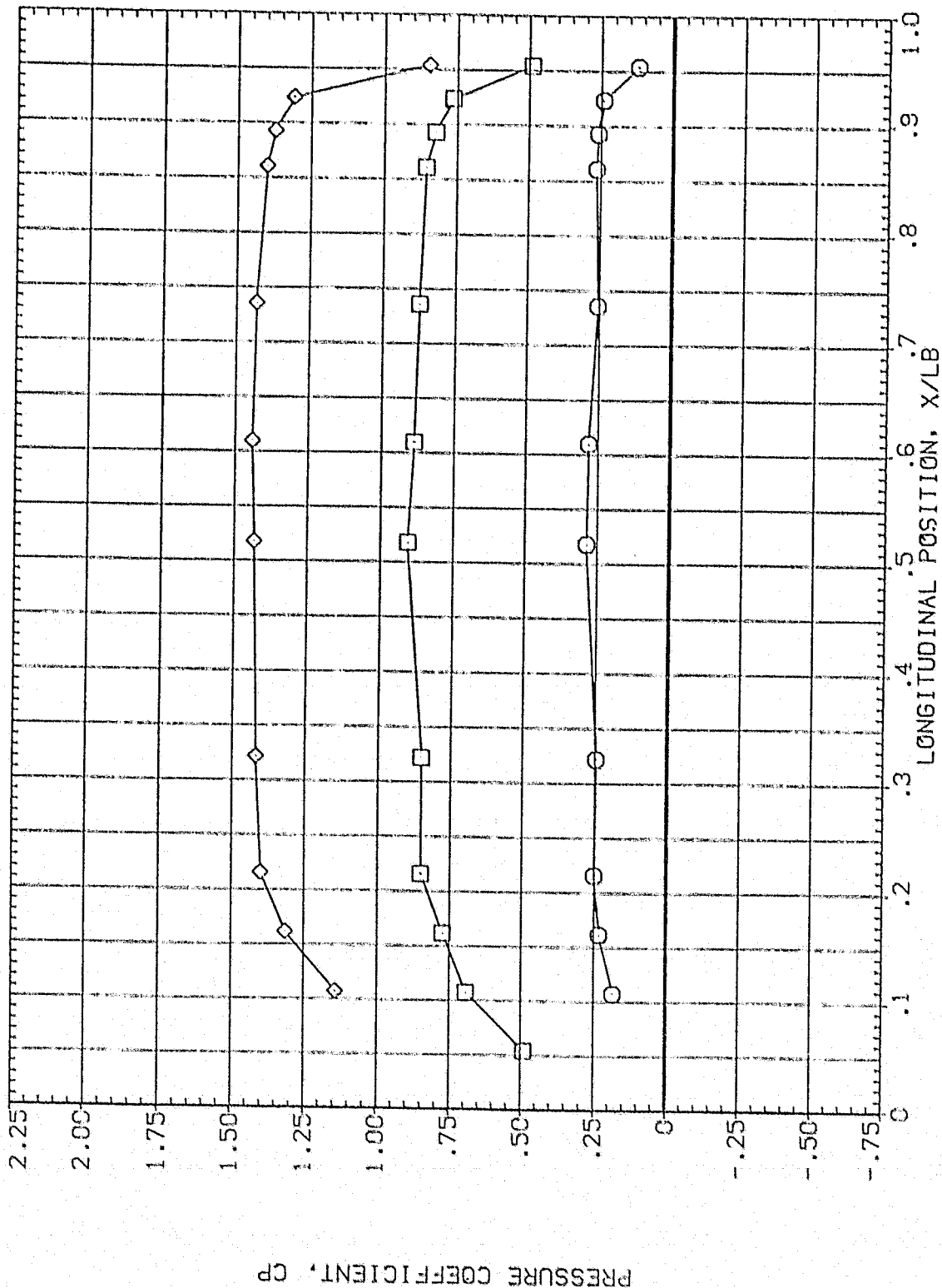


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL

THETA  
180.000  
202.500  
225.000

ALPHA  
89.830

MACH  
1.960

PARAMETRIC VALUES  
BETA  
MOUNT .000  
OFFSET 2.000  
PHI 90.000  
.000

90.000  
.000

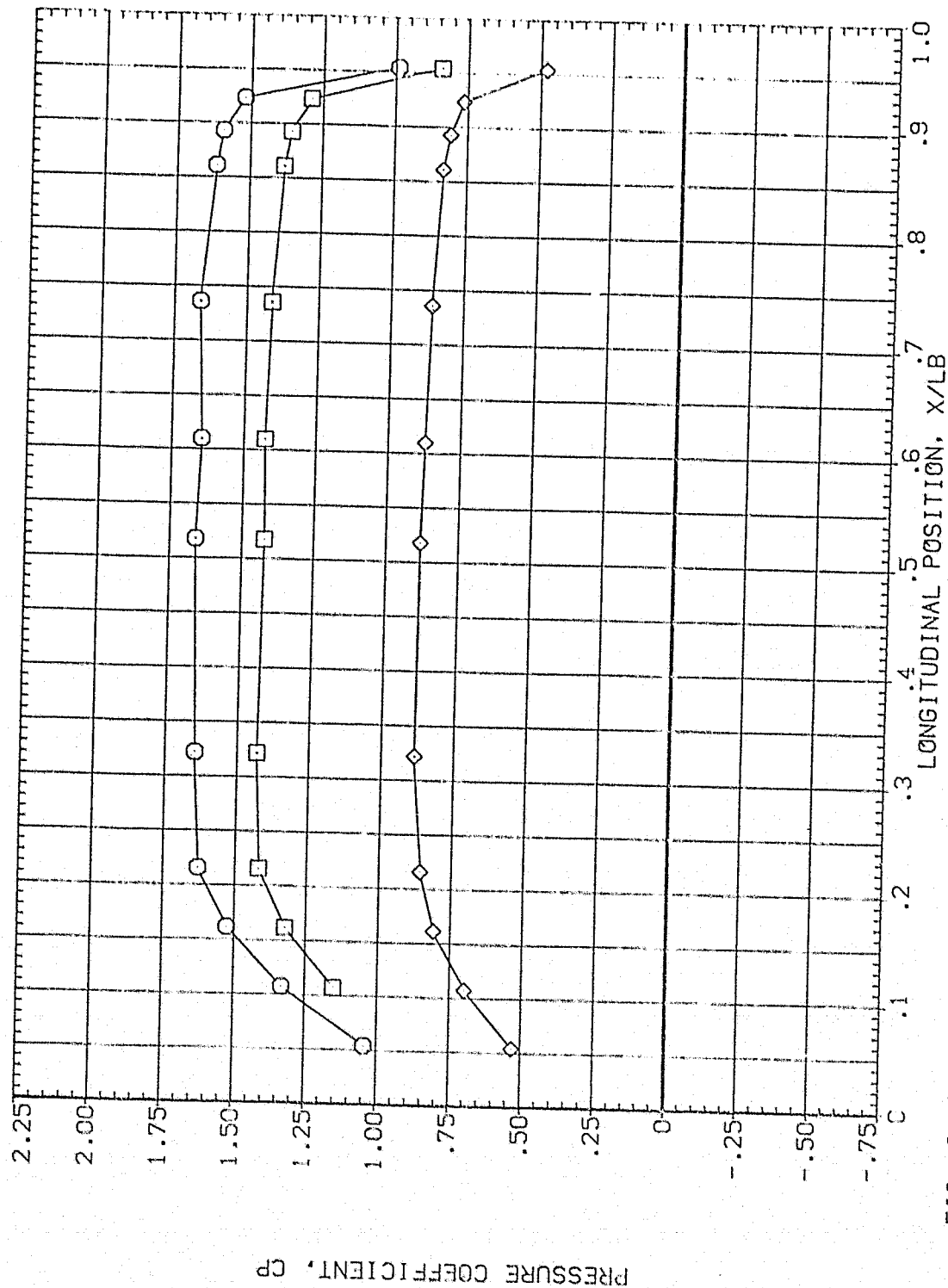


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	89.830	1.960	MOUNT	.000 OFFSET
□	270.000				2.000 PHI
◇	292.500				90.000

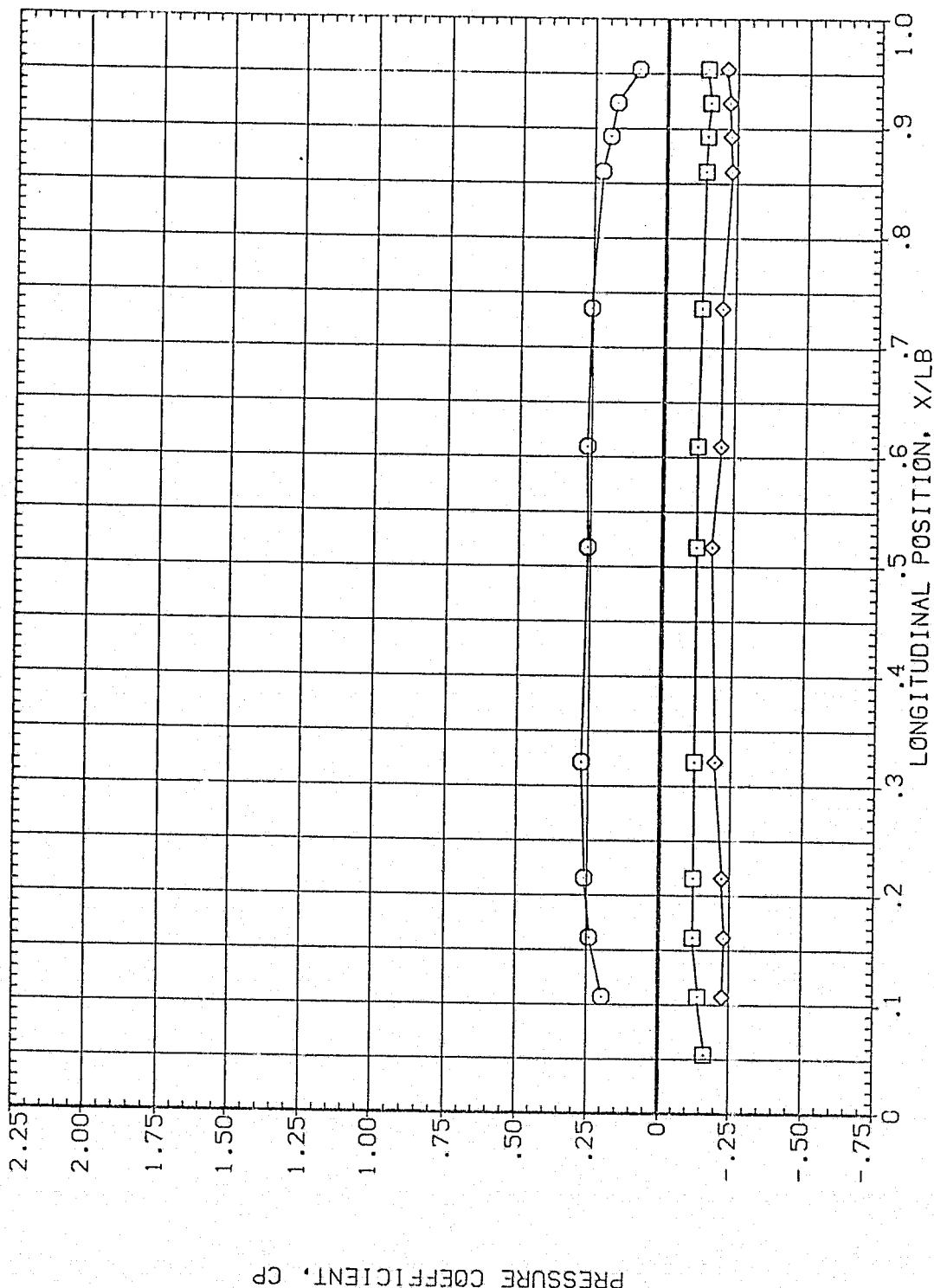


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI  
 90.000  
 .000

THETA ALPHA MACH  
 315.000 89.830 1.980  
 326.000  
 346.000

SYMBOL  
 ○  
 □  
 ◇

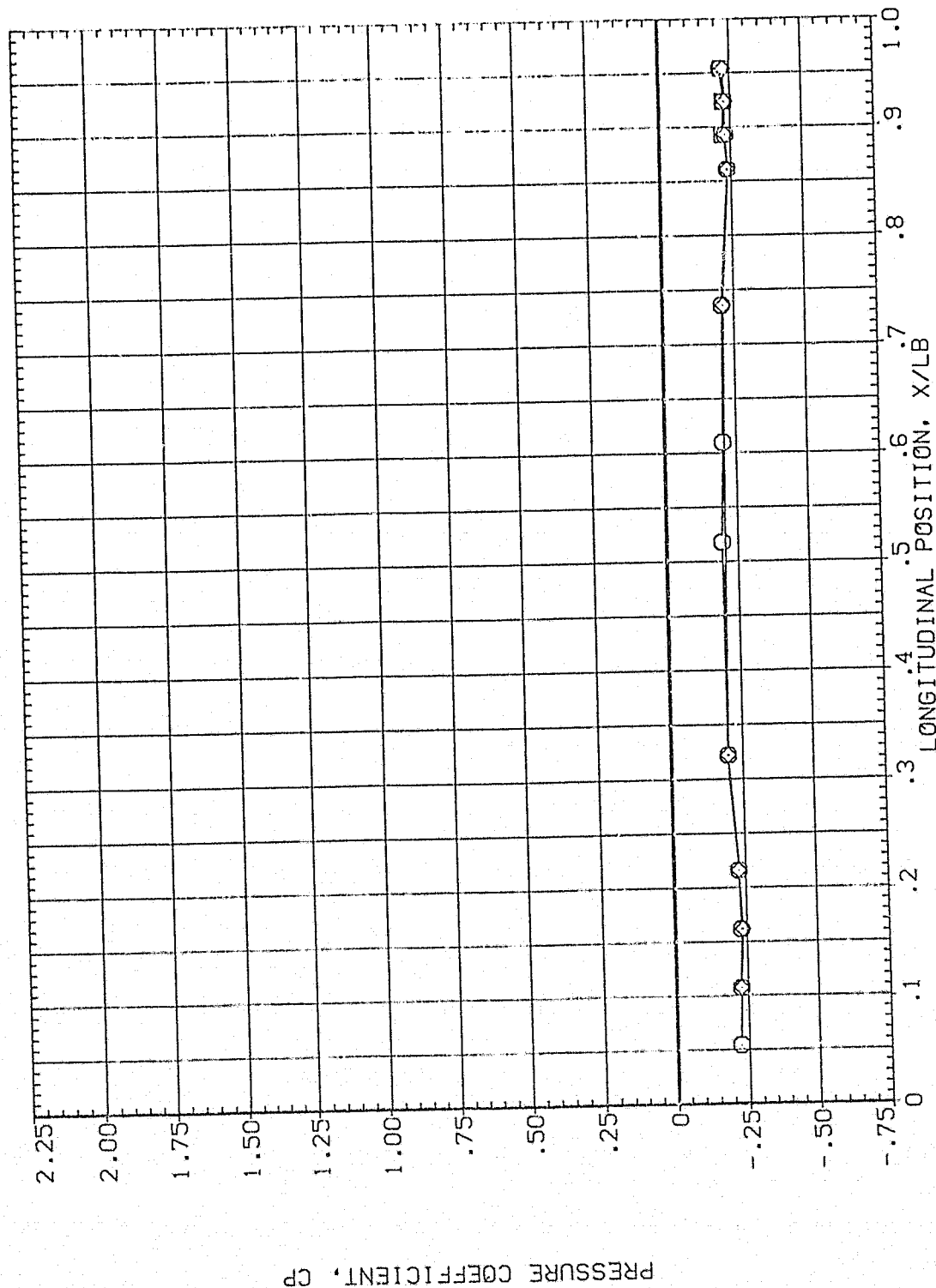


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL  
 ○  
 □  
 ◇

THETA  
 .000  
 14.000  
 24.000

ALPHA  
 91.830

MACH  
 1.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 2.000 90.000  
 OFFSET PHI .000

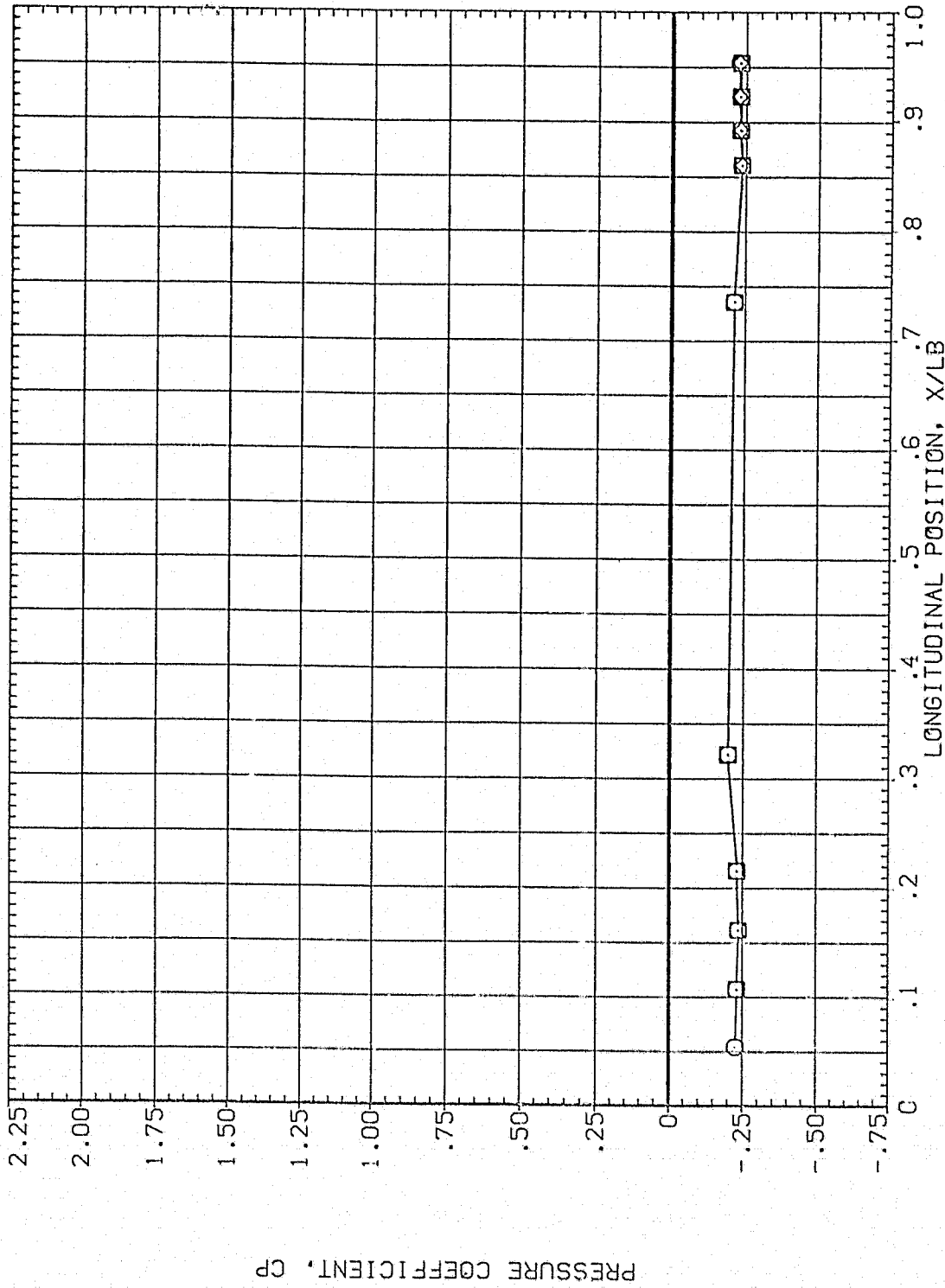


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
 .000 OFFSET  
 2.000 PHI  
 90.000

BETA  
 MOUNT

SYMBOL THETA ALPHA MACH  
 45.000 91.830 1.960  
 67.500  
 90.000

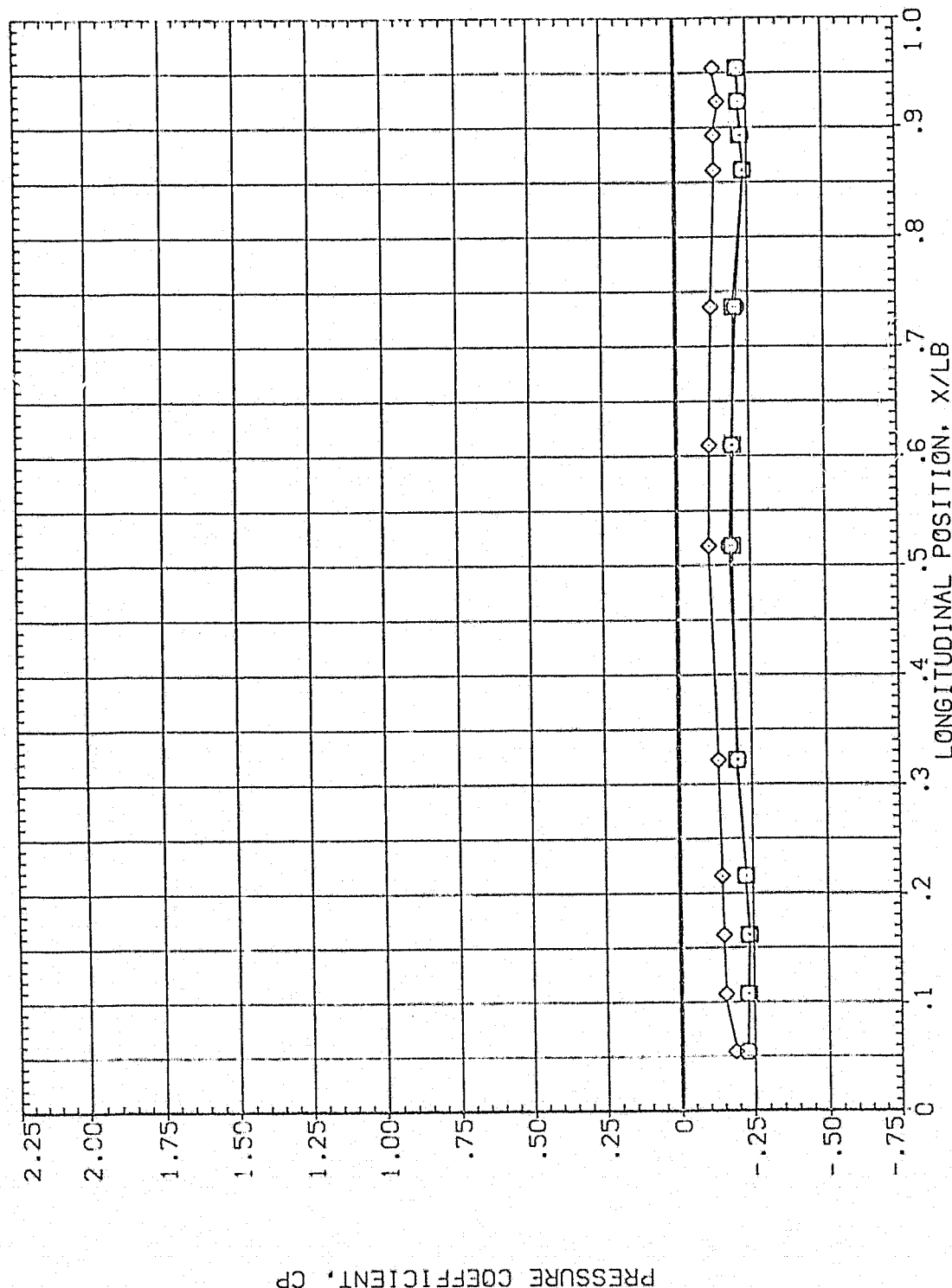


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL THETA ALPHA MACH  
 O 112.500 91.830 1.960  
 □ 135.000  
 ◇ 157.500

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET .000  
 PH. 90.000  
 .000

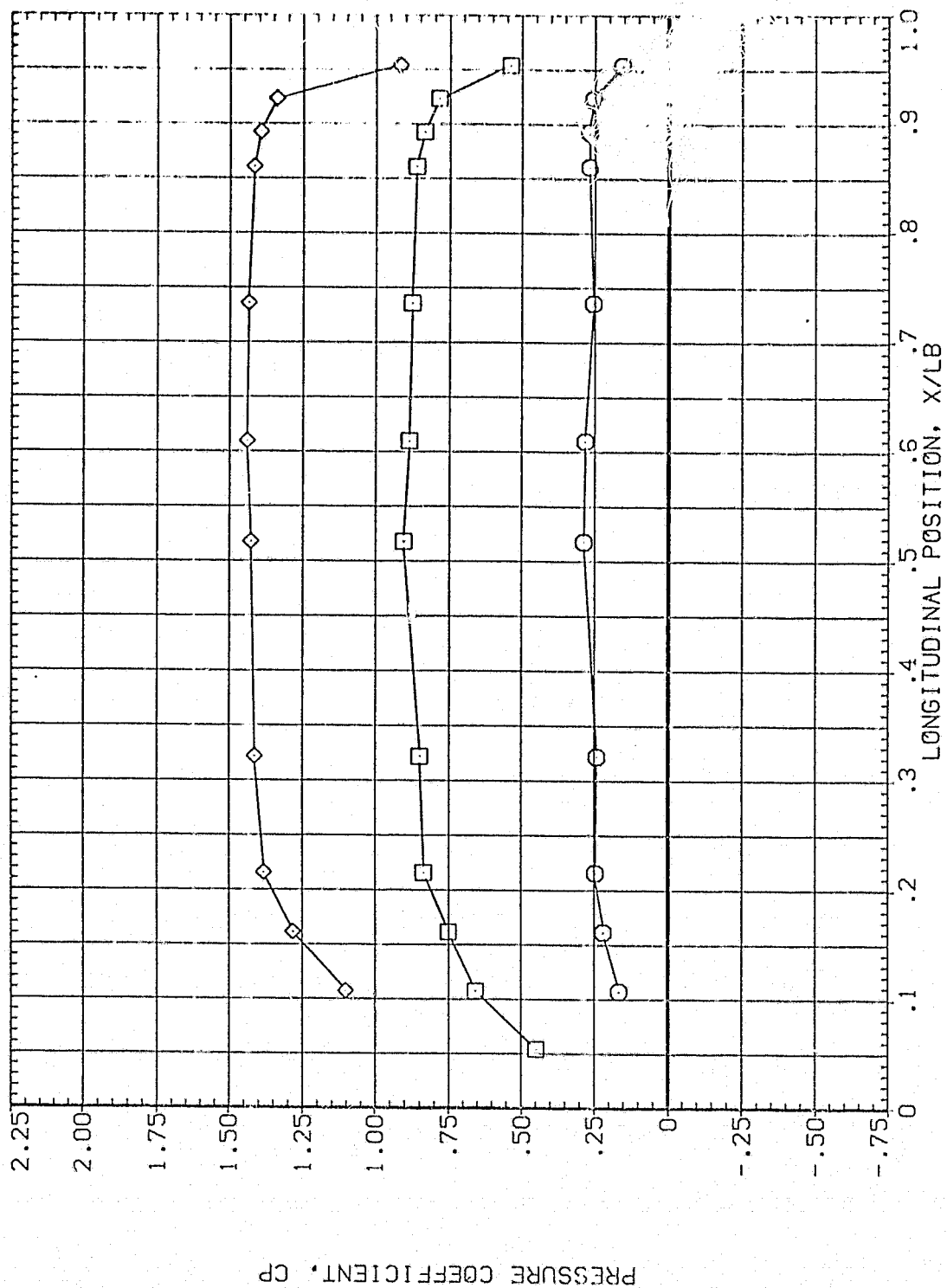


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA077)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	180.000	91.830	1.960	MOUNT	.000	.000
□	202.500				2.000	
◇	225.000					

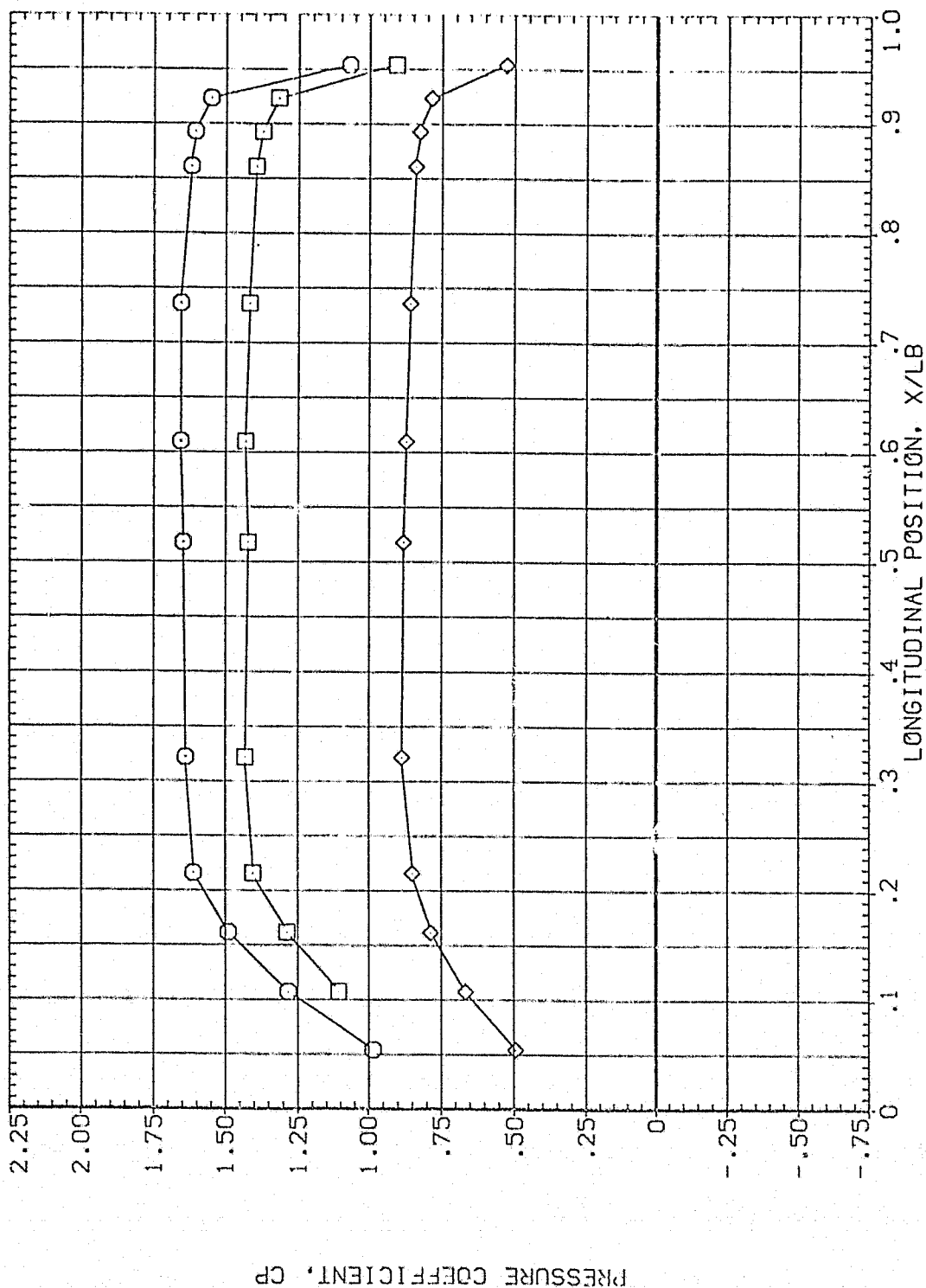


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	91.830	1.960	MOUNT	.000
□	270.000				2.000
◇	292.500				90.000
					.000

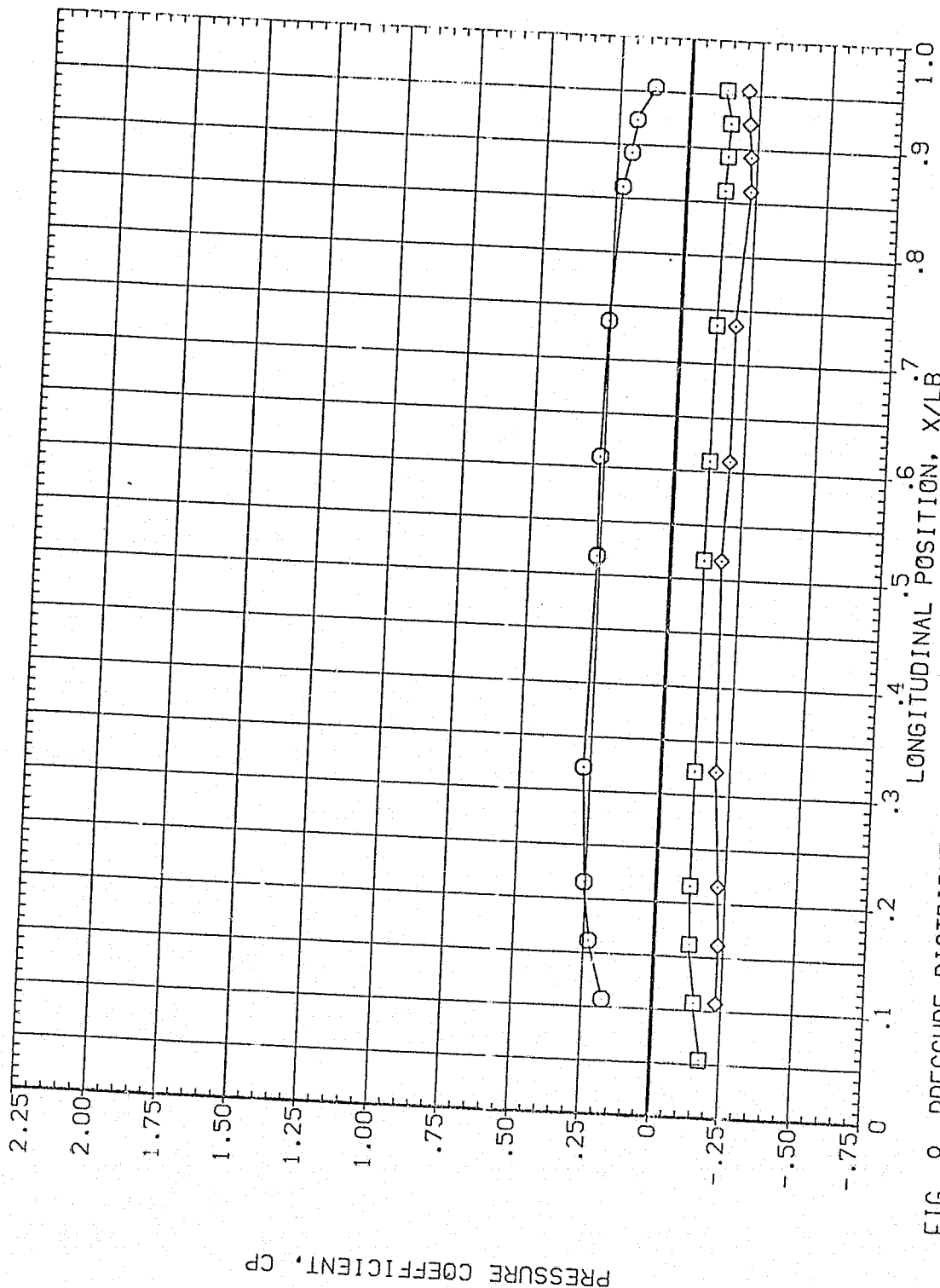


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	91.830	1.960	MMOUNT	.000 OFFSET
□	326.000				2.000 PHI
◇	346.000				.000

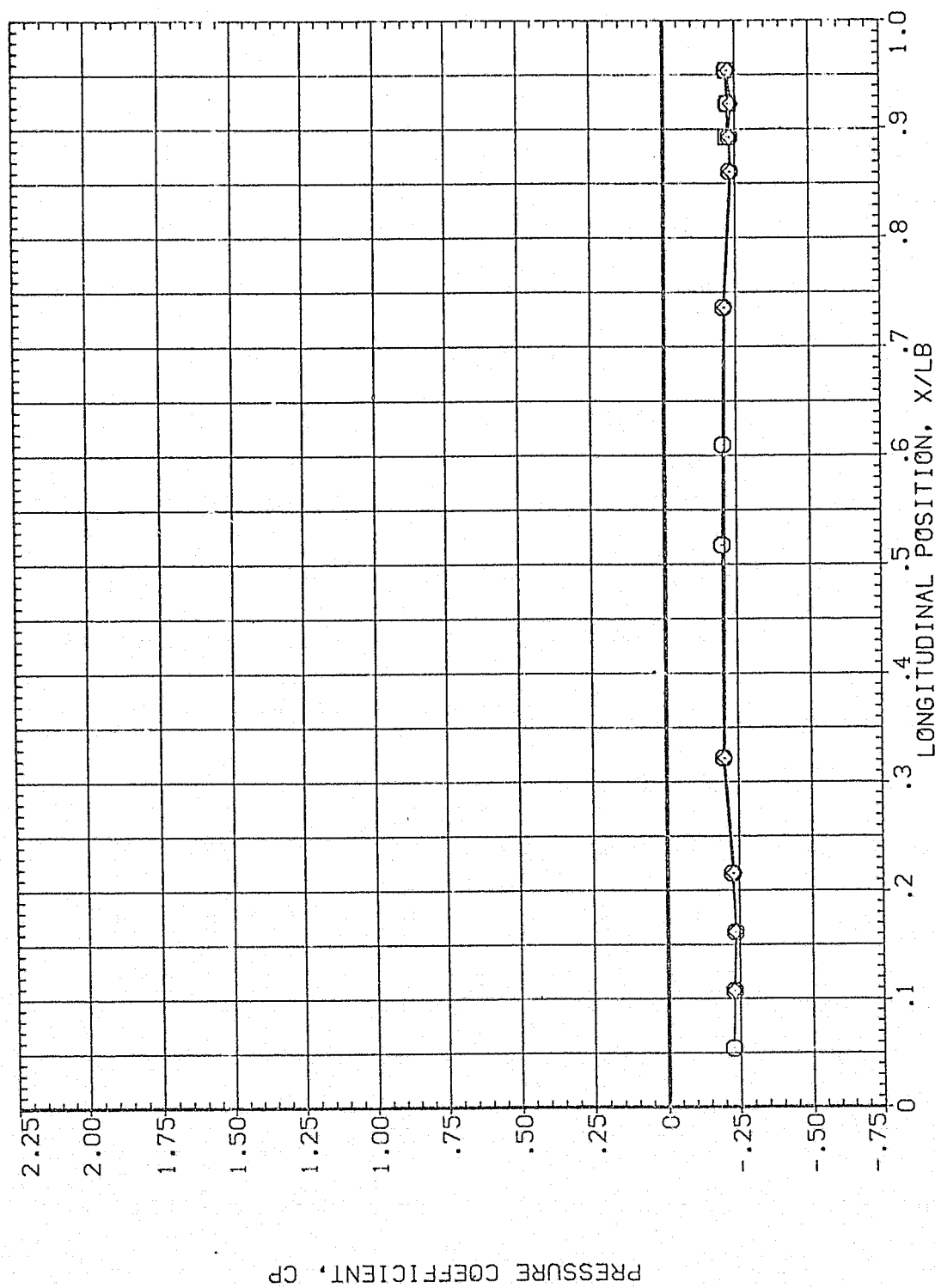


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



PARAMETRIC VALUES  
 .000 OFFSET  
 2.000 PHI  
 90.000  
 .000

BETA  
 MOUNT

ALPHA  
 94.850  
 MACH  
 1.960

THETA  
 .000  
 14.000  
 24.000

SYMBOL  
 □  
 ○  
 ◇

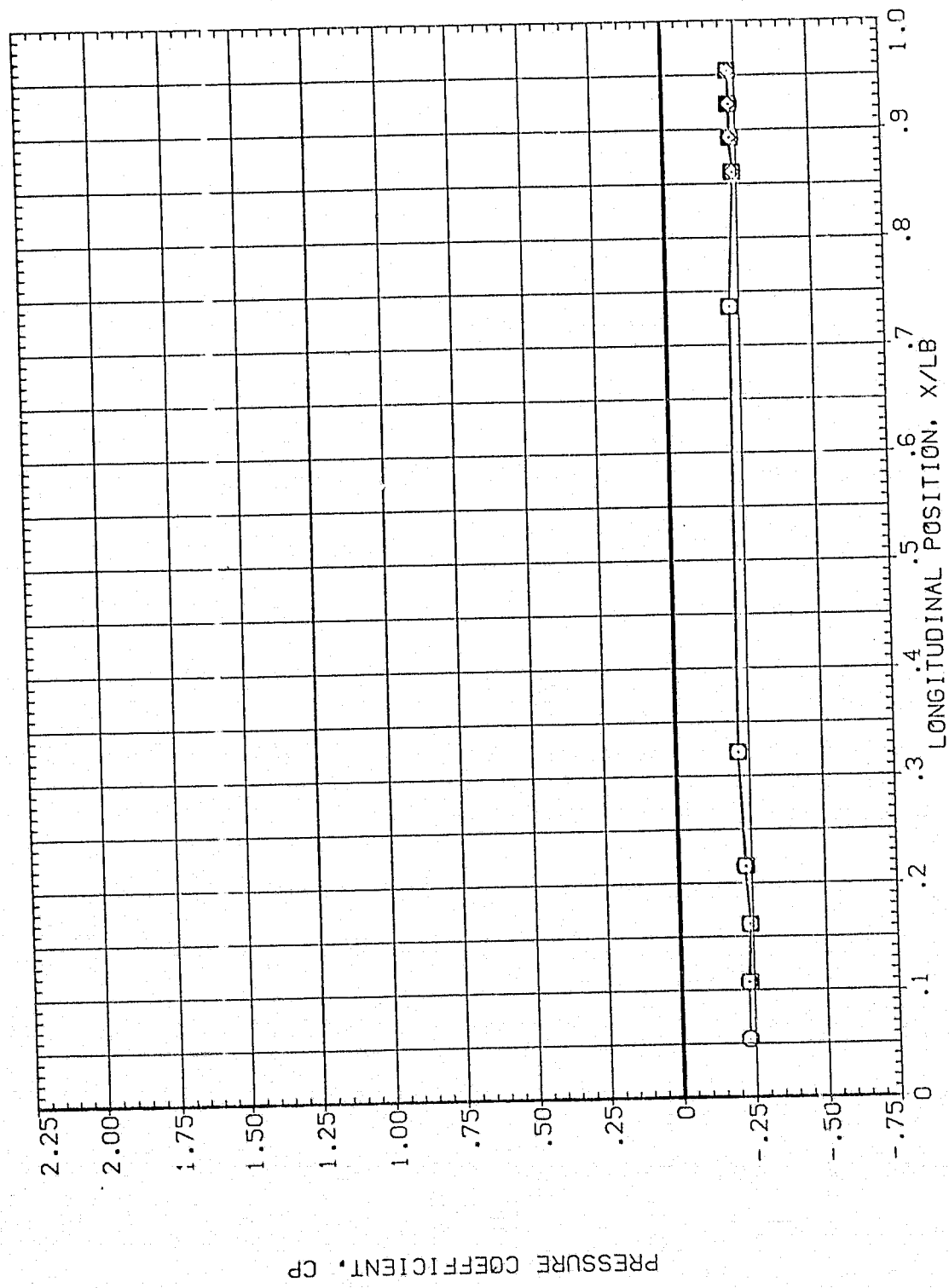


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
◇	45.000	94.850	1.960	MOUNT	2.000	PHI
□	67.500					.000
◇	90.000					

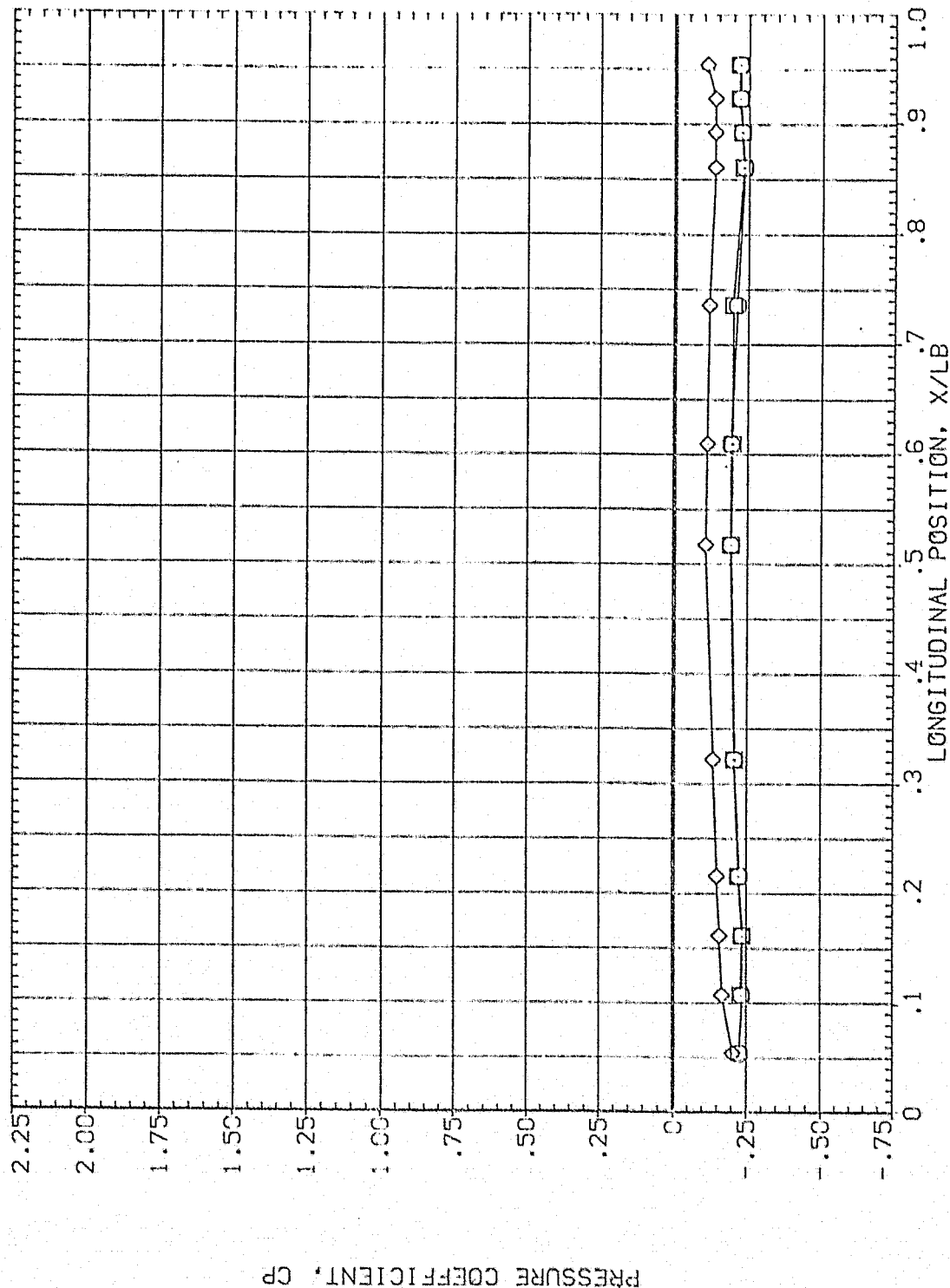


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL  
◇  
□  
○

THETA  
112.500  
135.000  
157.500

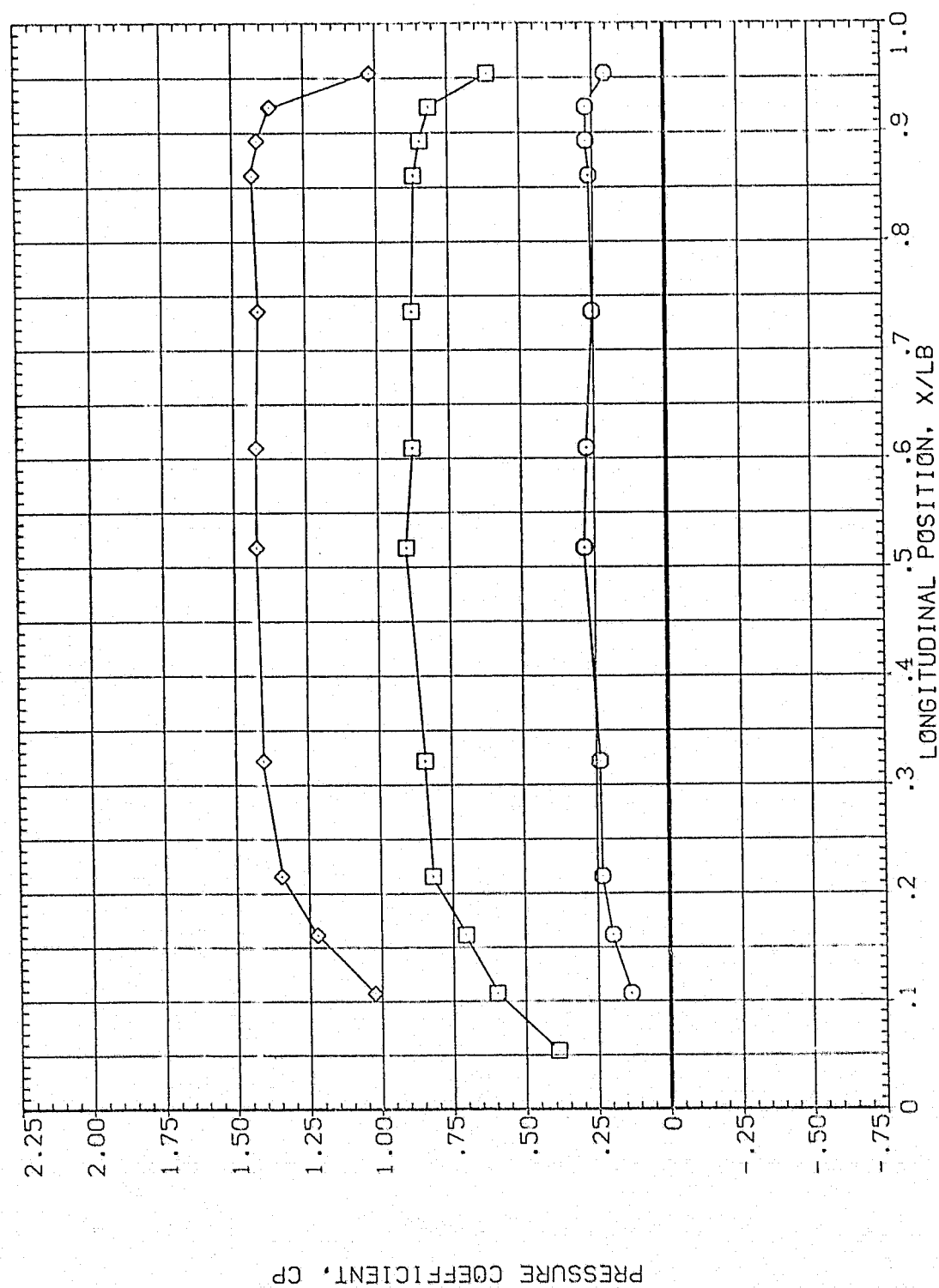
ALPHA  
94.850

MACH  
1.960

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
PHI

90.000  
.000



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FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

PARAMETRIC VALUES  
 .000 OFFSET  
 2.000 PHI  
 90.000

SYMBOL THETA ALPHA MACH  
 ○ 180.000 94.850 1.960  
 □ 202.500  
 ◇ 225.000

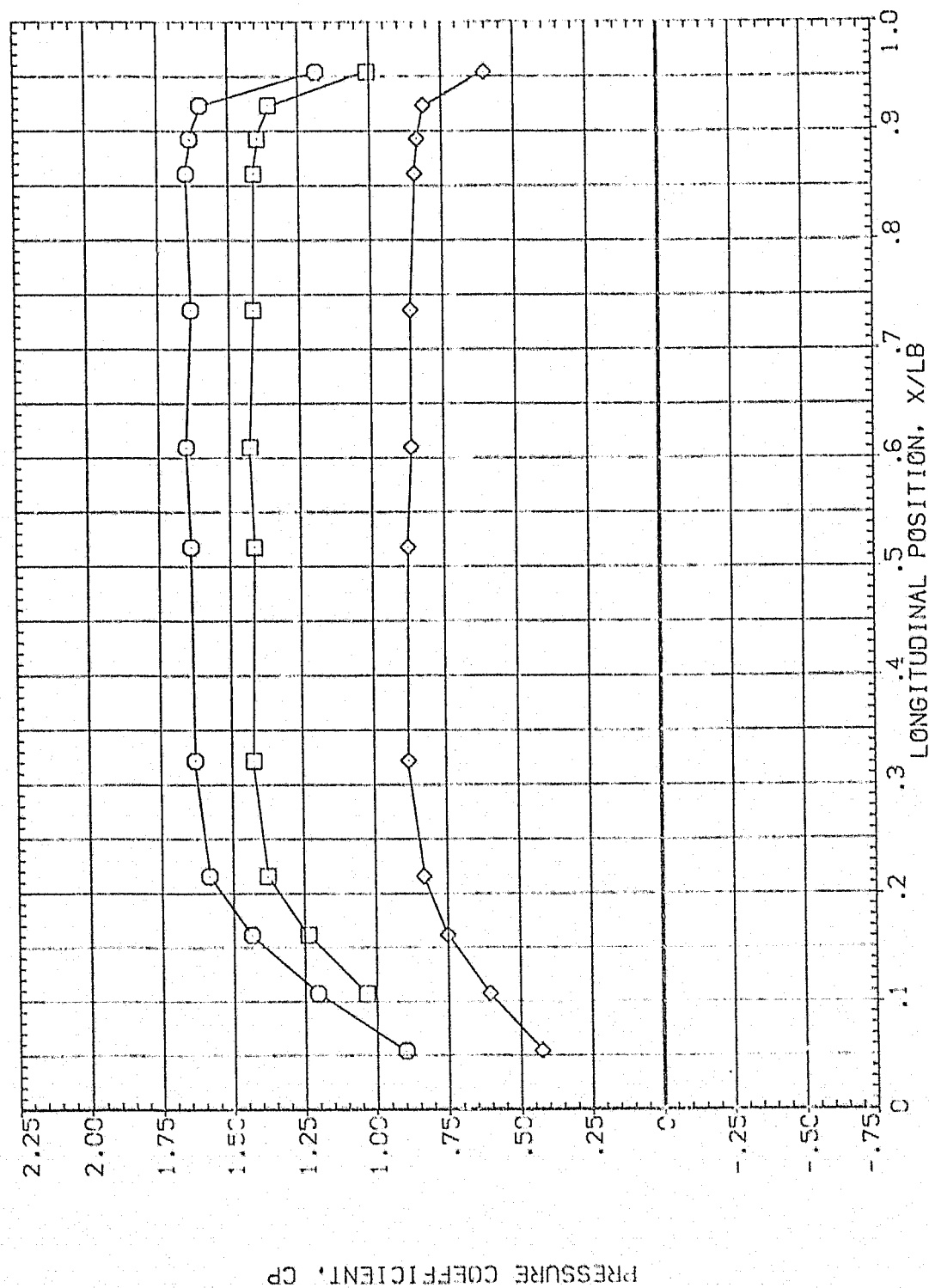


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	54.850	1.960	2.000	.000	.000
□	270.000					
◇	292.500					

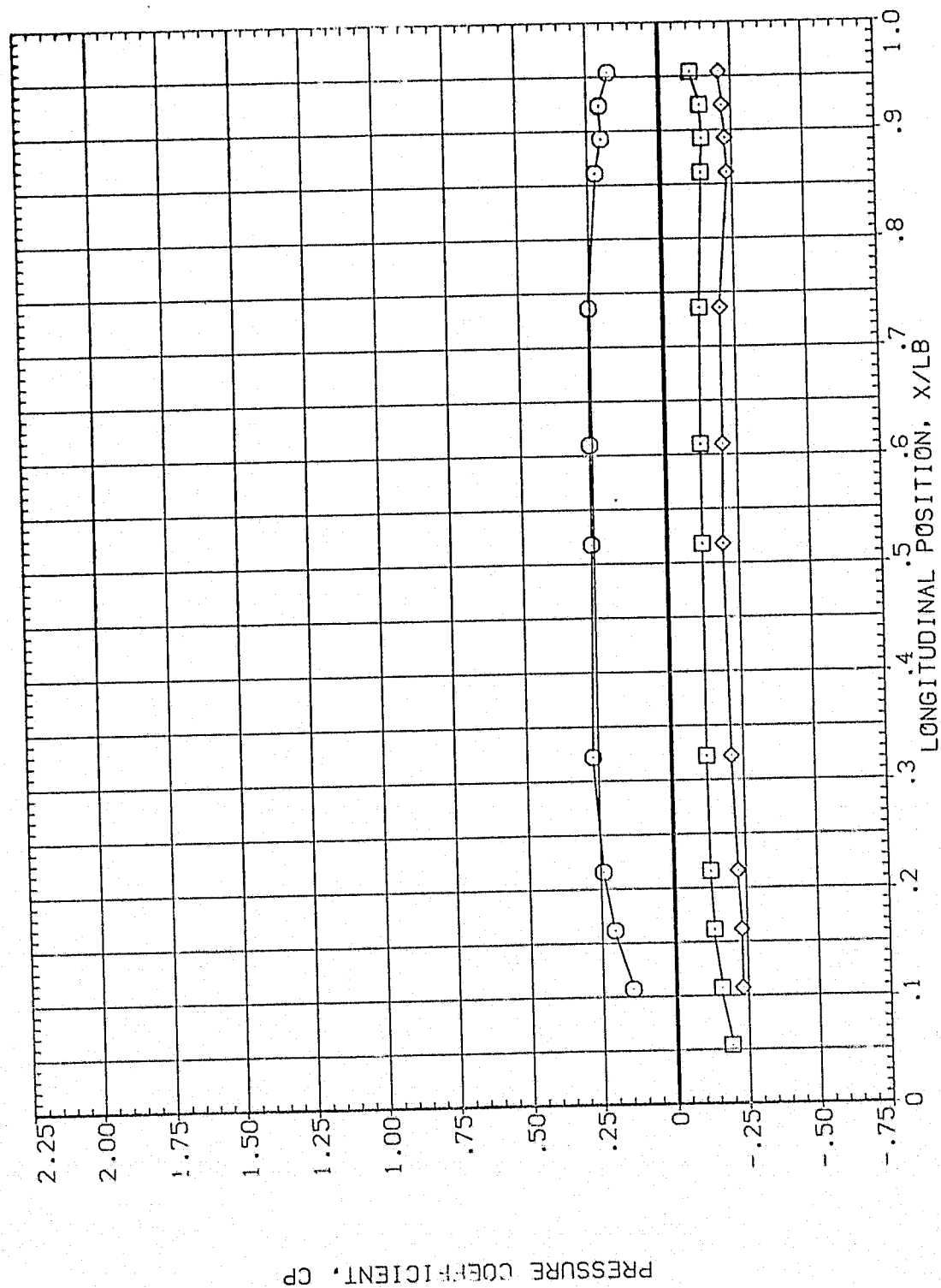


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	315.000	94.850	1.960	MOUNT	.000 OFFSET
◇	326.000				2.000 PHI
◇	346.000				90.000

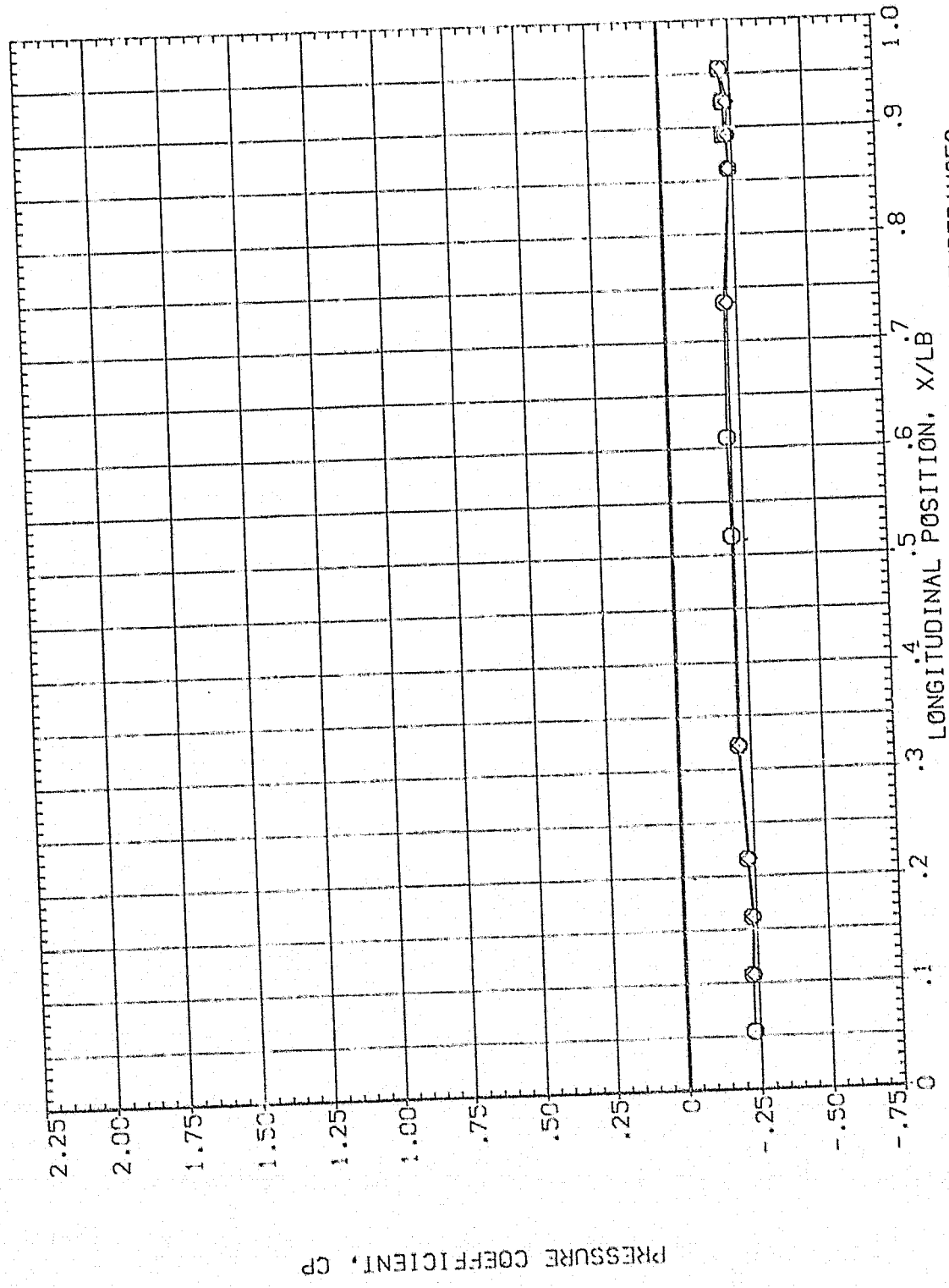


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA079)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.000	97.850	1.970	MOUNT	.000
□	14.000				2.000
◇	24.000			OFFSET	90.000
				PHI	.000

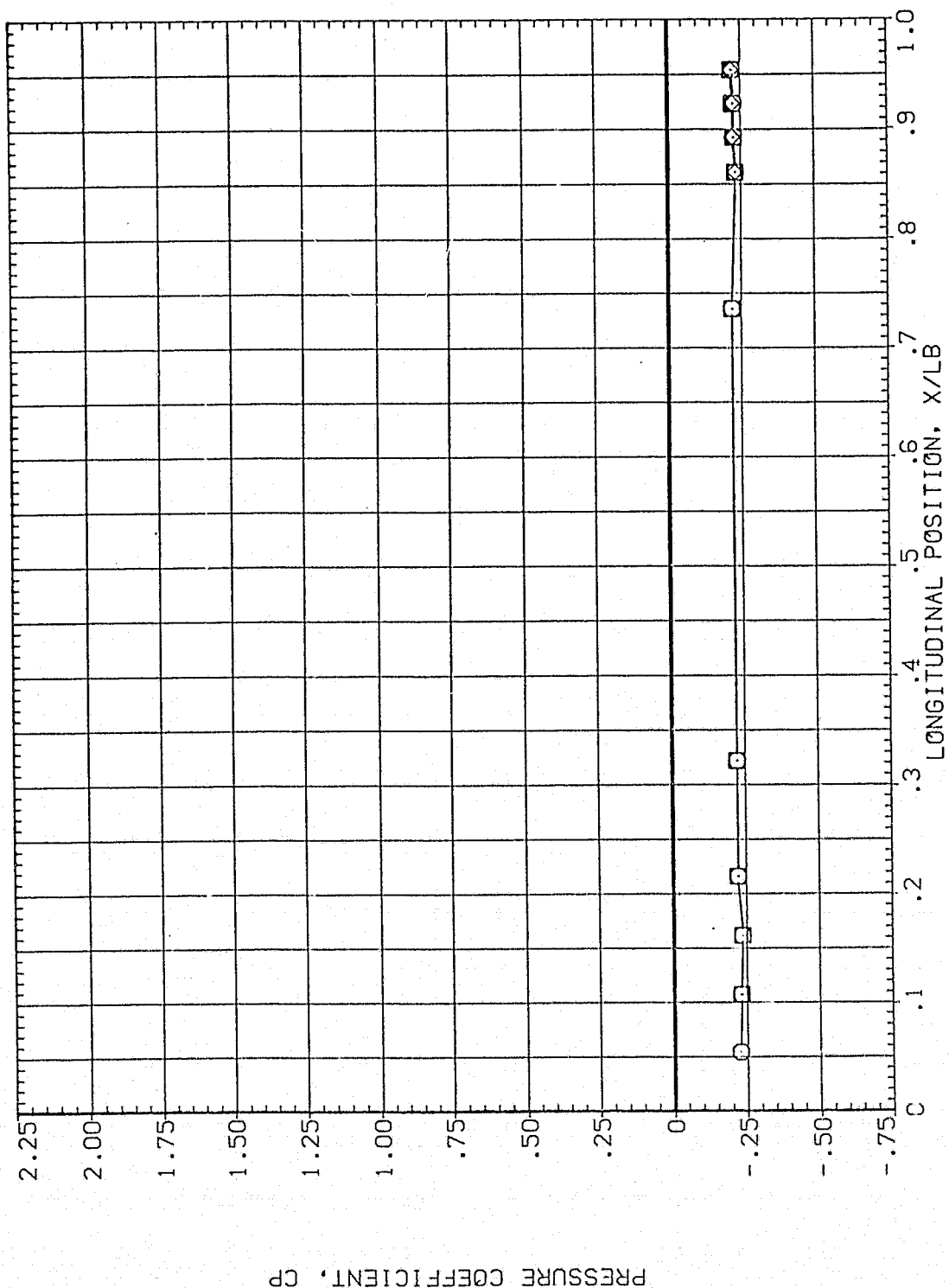


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 45.000  
 67.500  
 90.000

THETA  
 45.000  
 67.500  
 90.000

ALPHA  
 97.850

MACH  
 1.970

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 2.000  
 .000  
 .000  
 PHI

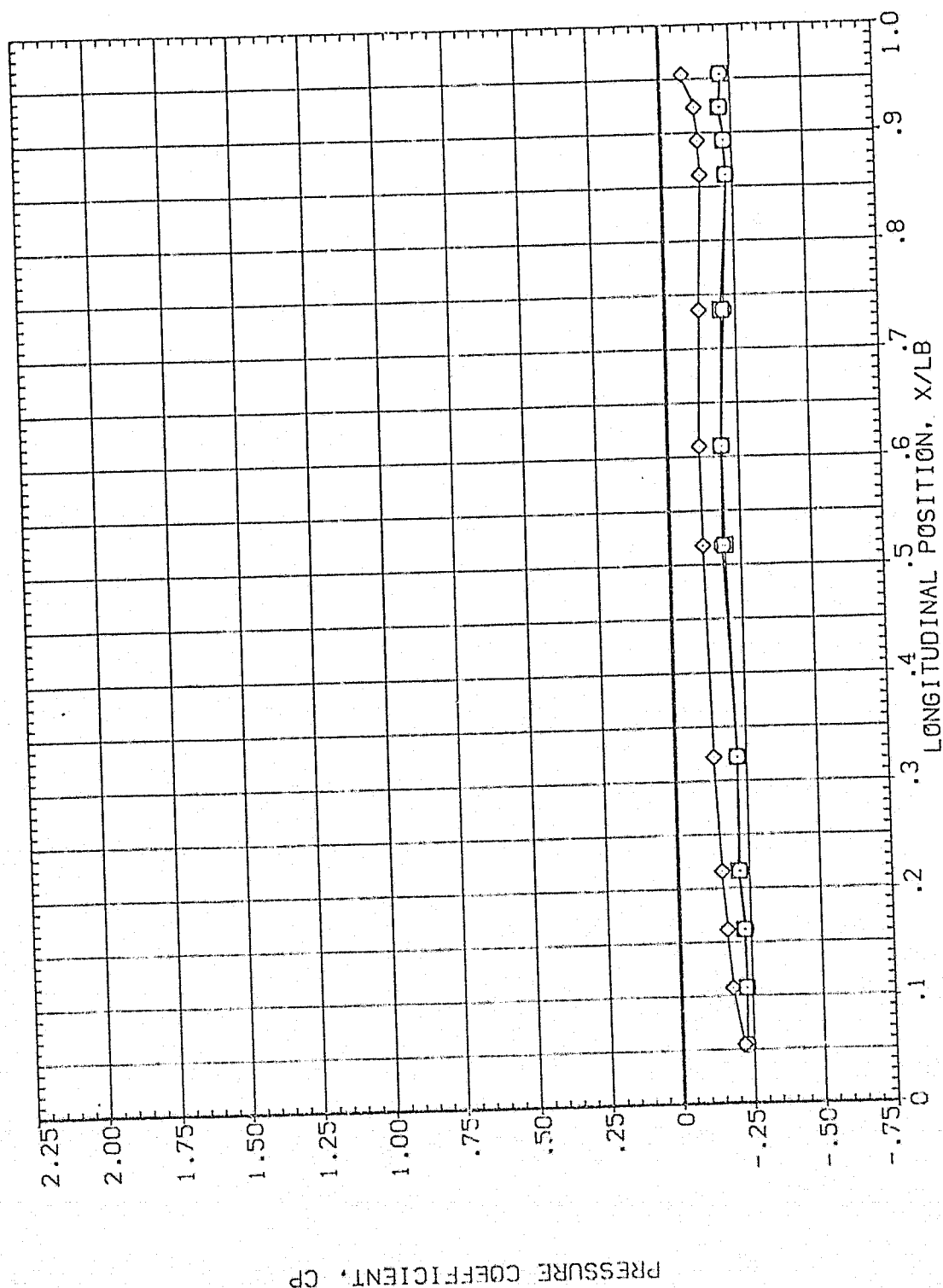


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL	THETA		ALPHA		MACH		BETA		PARAMETRIC VALUES	
	112.500	135.000	97.850	1.970			MOUNT		.000	90.000
○	157.500								2.000	.000
□									PHI	
◇										

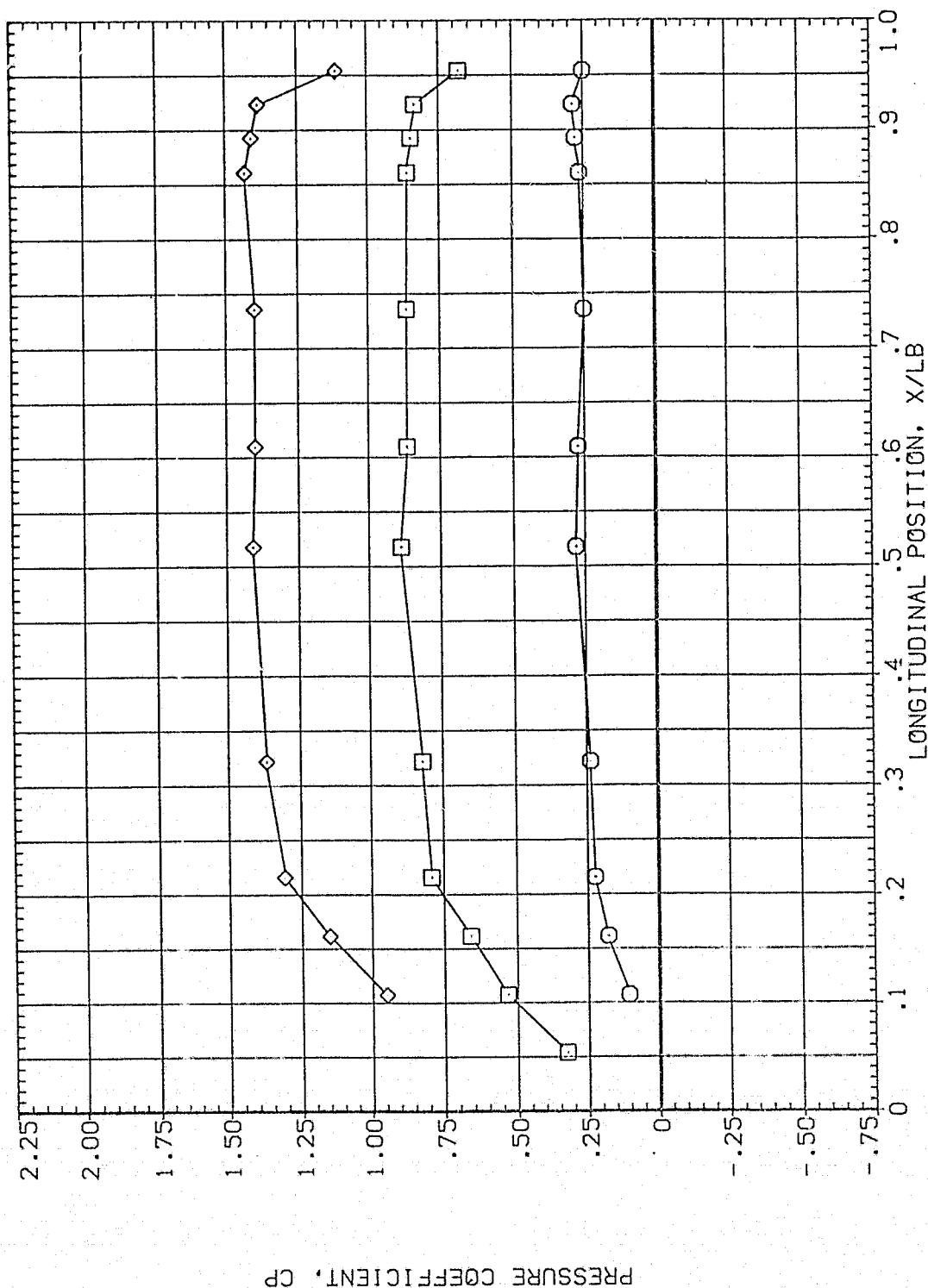


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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ORIGINAL PAGE IS POOR

SYMBOL

THETA  
180.000  
202.500  
225.000

ALPHA  
97.850

MACH  
1.970

PARAMETRIC VALUES  
BETA  
MOUNT

90.000  
2.000  
PHI  
.000

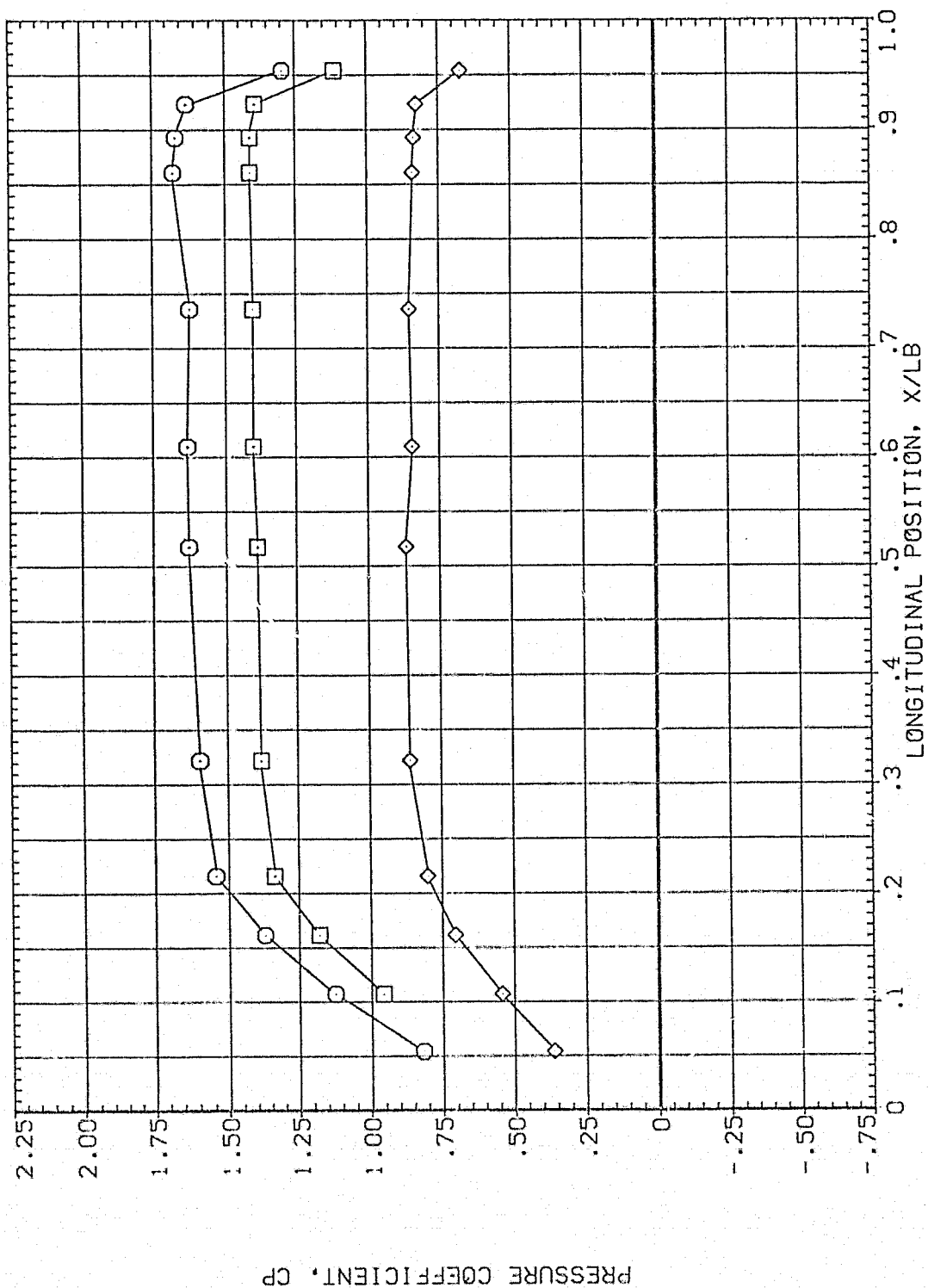


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	97.850	1.970	MOUNT	.000
□	270.000				2.000
◇	292.500				90.000
					PHI
					.000

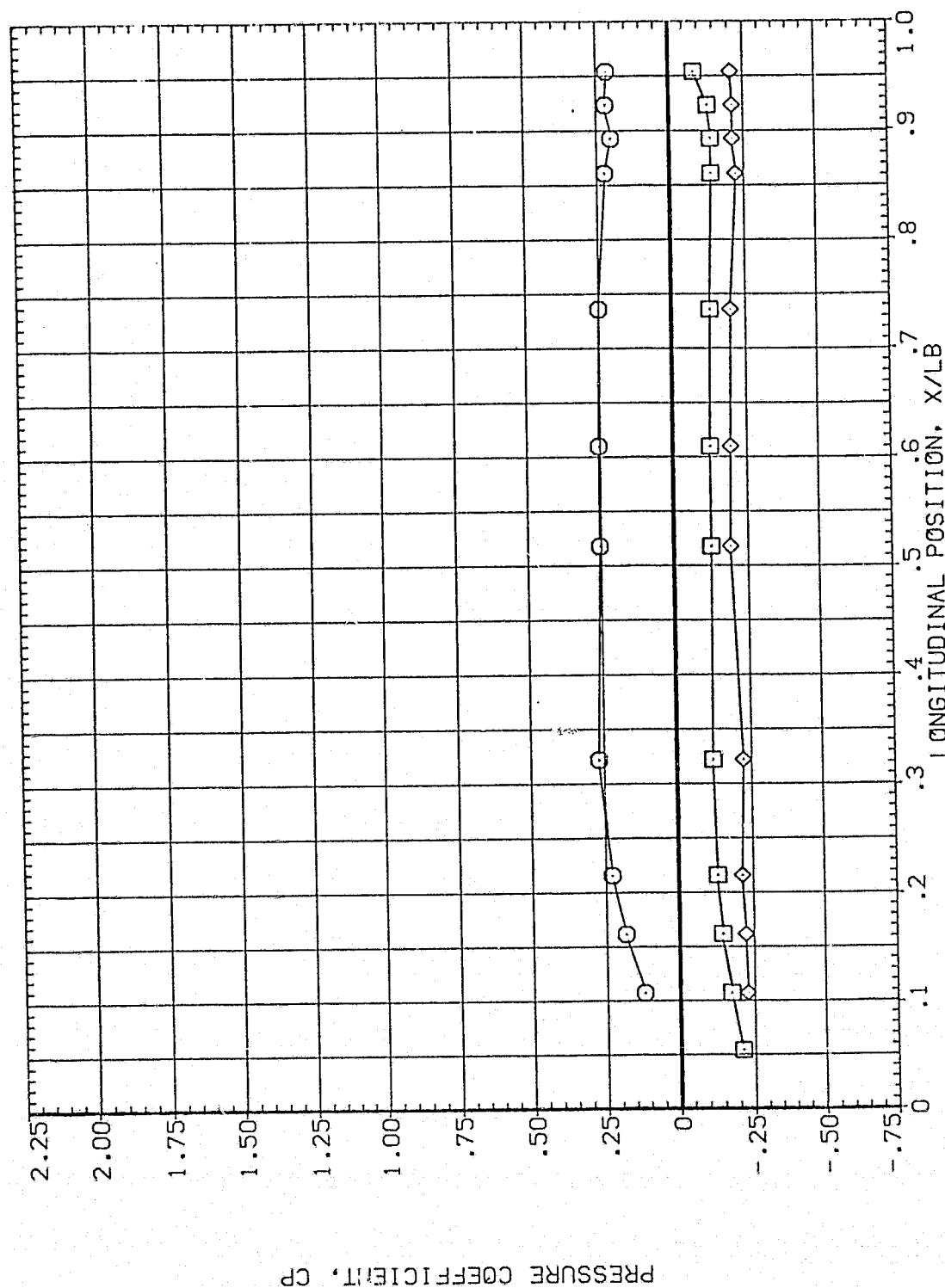


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	97.850	1.970	MOUNT	.000
□	326.000				OFFSET
◇	346.000				PHI
					90.000
					.000

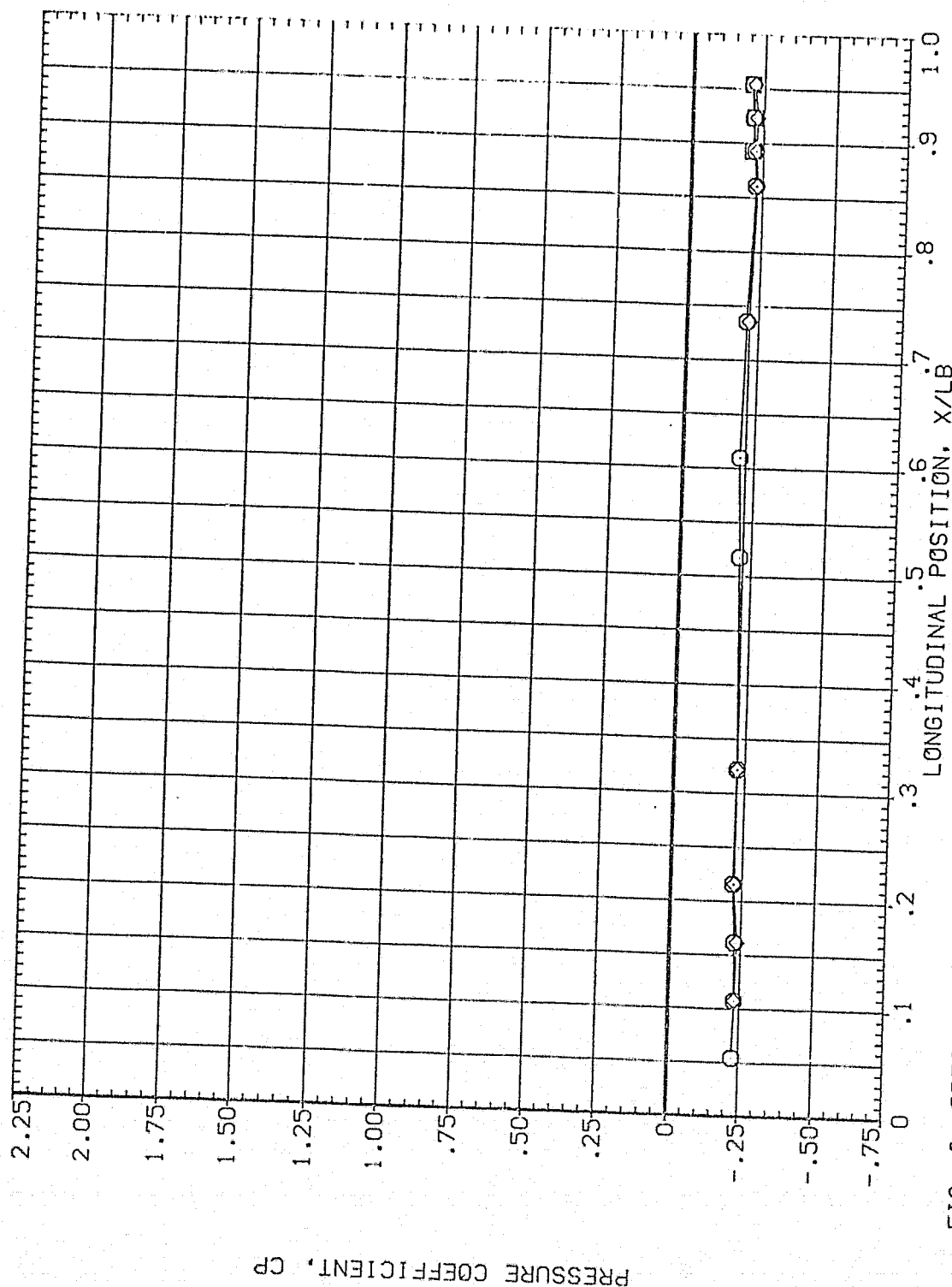


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2.

(P1A080)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.000	99.730	1.960	.000	.000	.000
□	14.000			2.000		
◇	24.000					

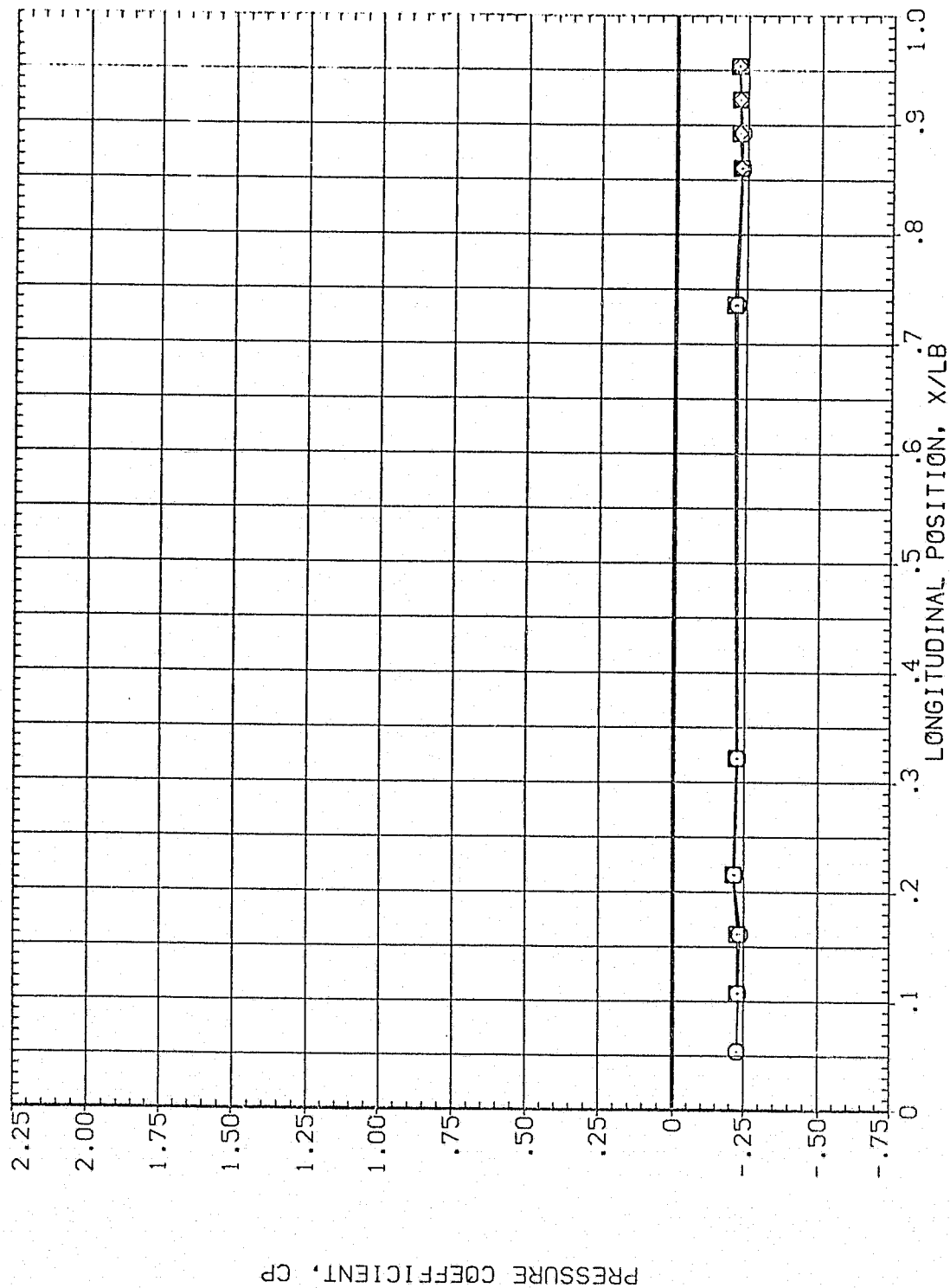


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	99.730	1.960	MOUNT	.000
□	67.500				2.000
◇	90.000				PHI
					90.000
					.000

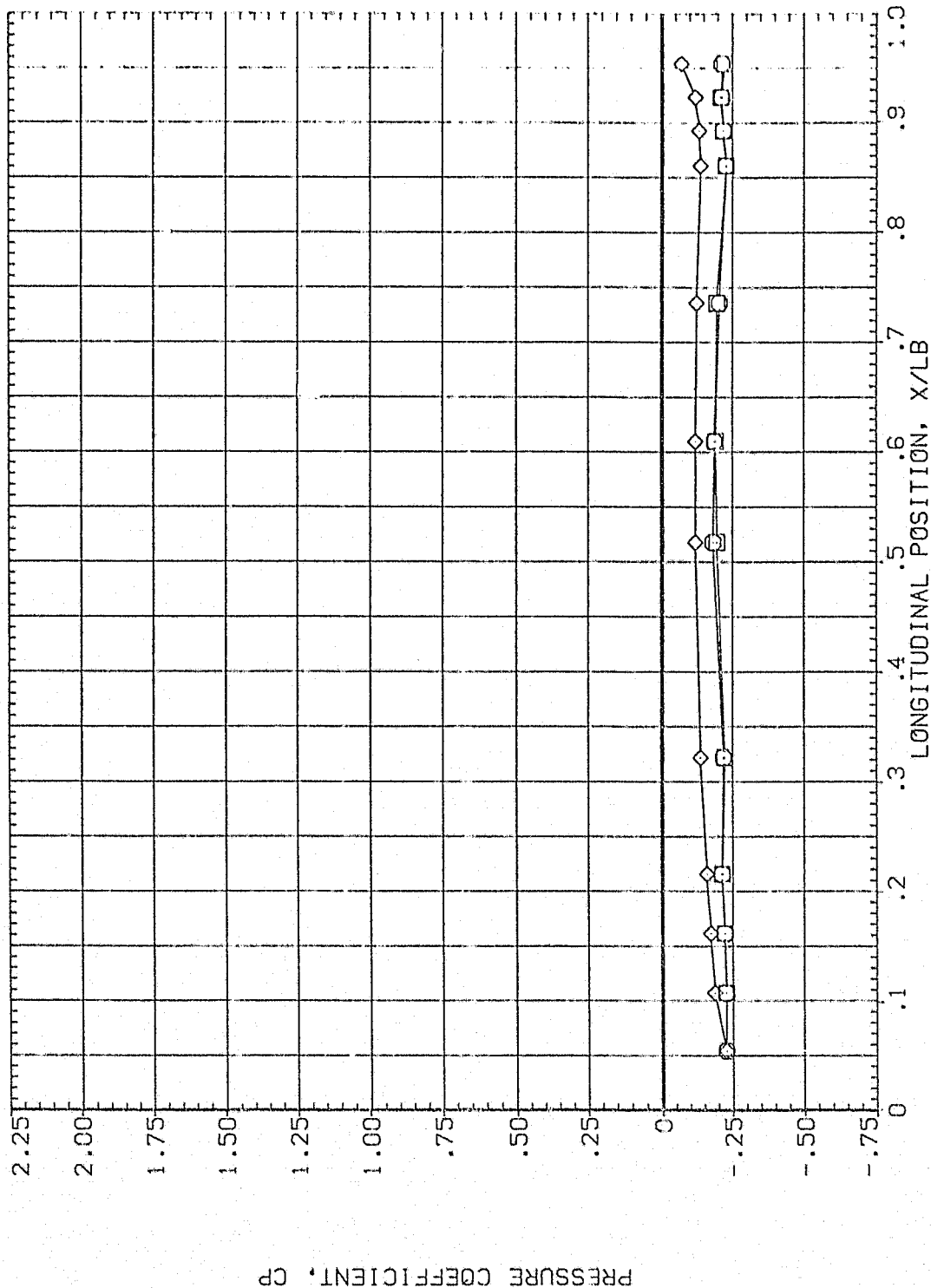


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL  
 ◇  
 □  
 ○

THETA 112.500  
 ALPHA 99.730  
 HACH 1.960

BETA MOUNT

PARAMETRIC VALUES  
 .000  
 OFFSET PHI  
 2.000  
 90.000  
 .000

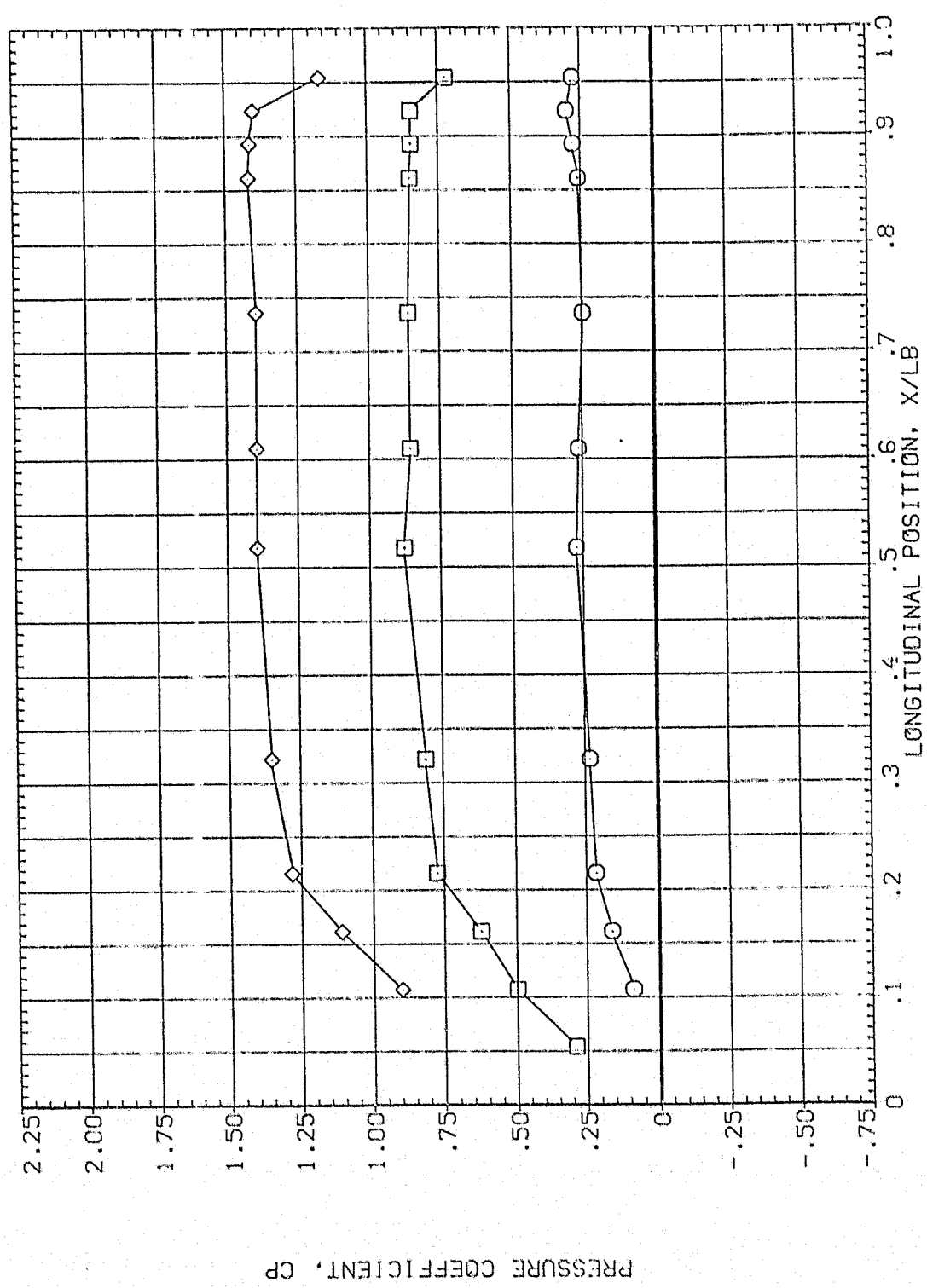


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	99.730	1.960	.000	OFFSET
□	202.500			2.000	PHI
◇	225.000			.000	

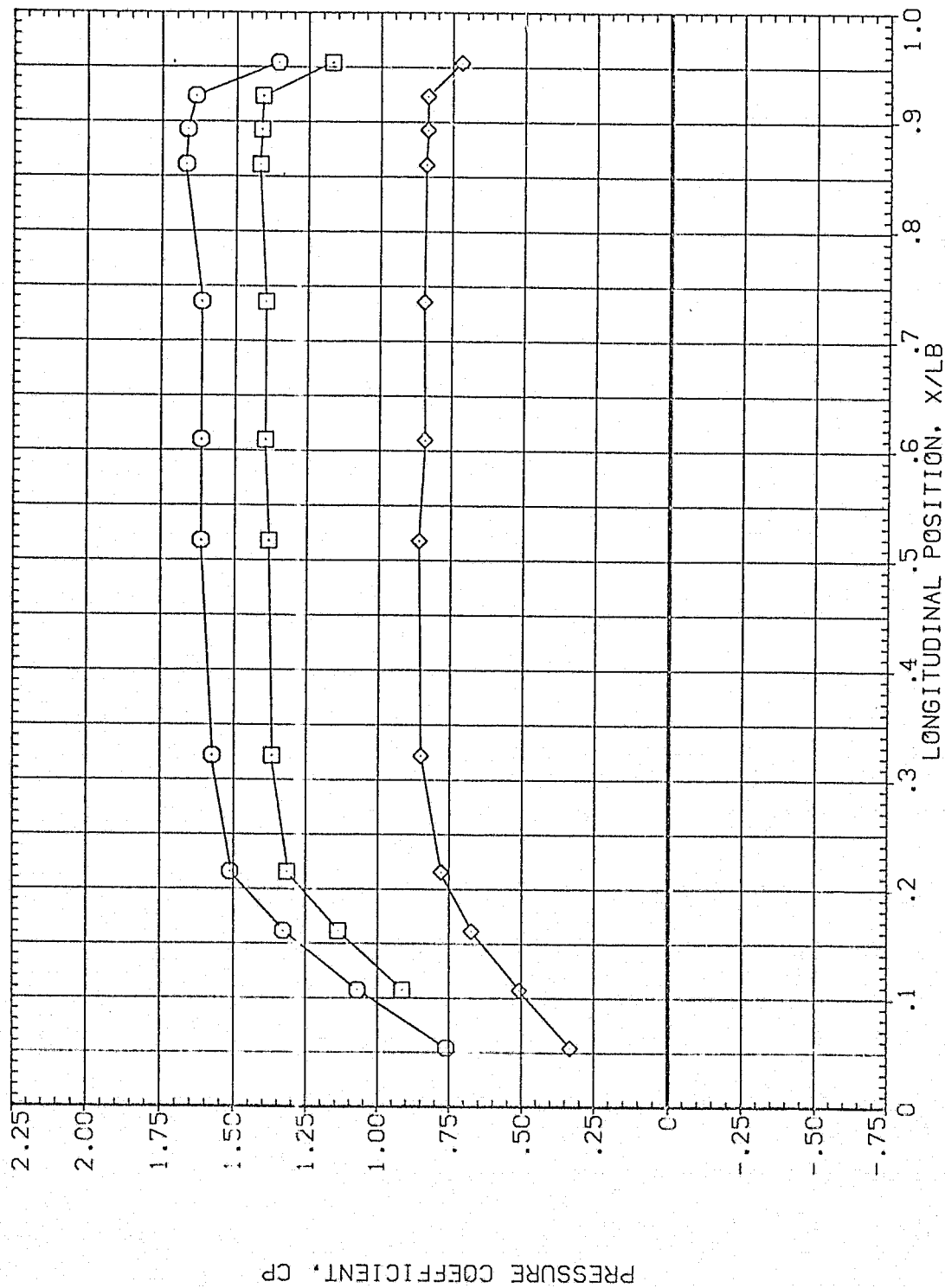


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	247.500	99.730	1.960	2.000	PHI	.000
□	270.000					
◇	292.500					

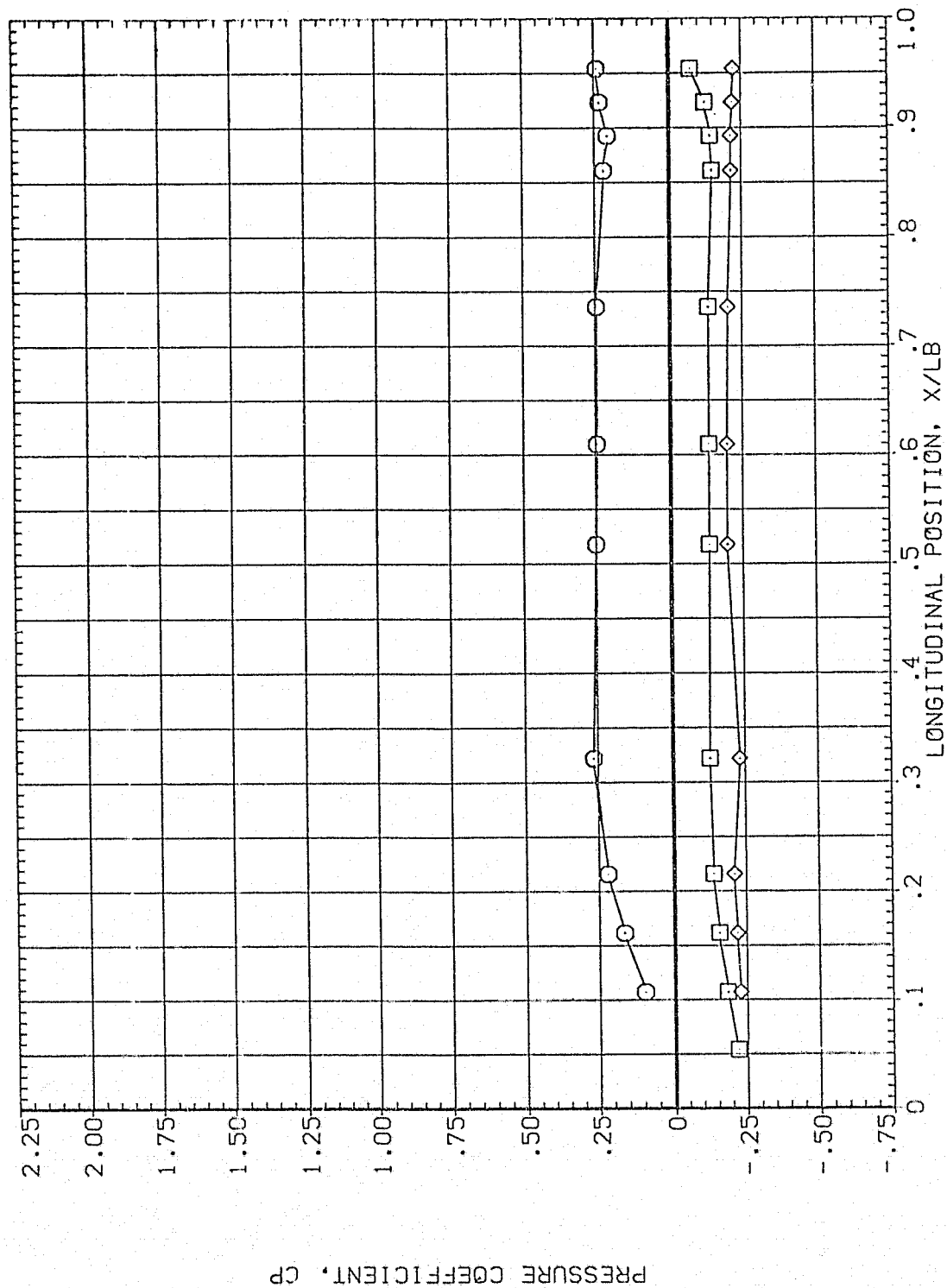


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	315.000	326.000	99.730	1.960	BETA	OFFSET	.000	2.000	90.000	.000
○					Mount					
□										
◇										

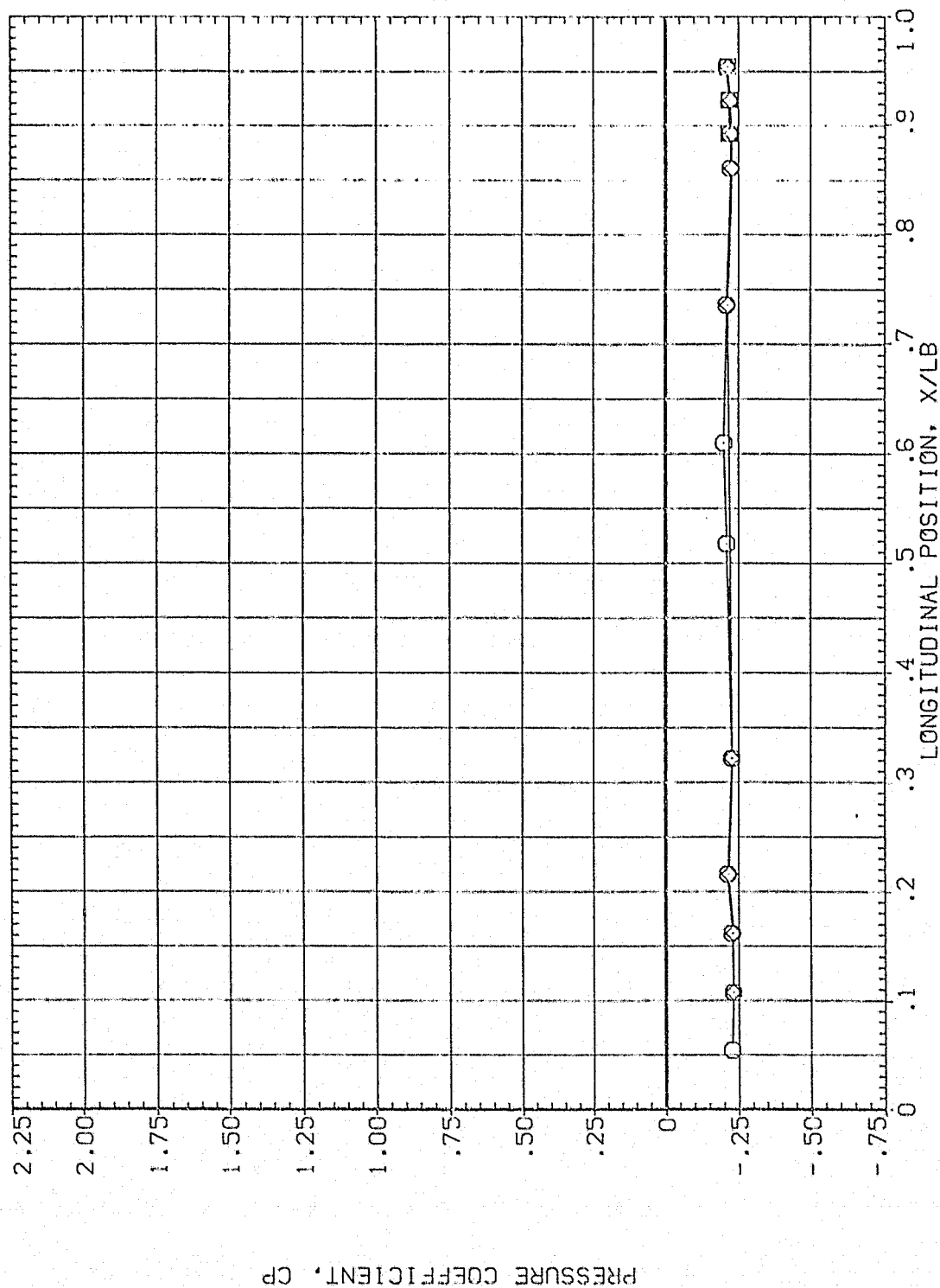


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

PARAMETRIC VALUES  
 .000 OFFSET  
 2.000 PHI  
 60.000

BETA  
 MOUNT

MACH  
 3.480

ALPHA  
 51.000

THETA  
 .000  
 14.000  
 24.000

SYMBOL  
 ◇  
 ○  
 ◻

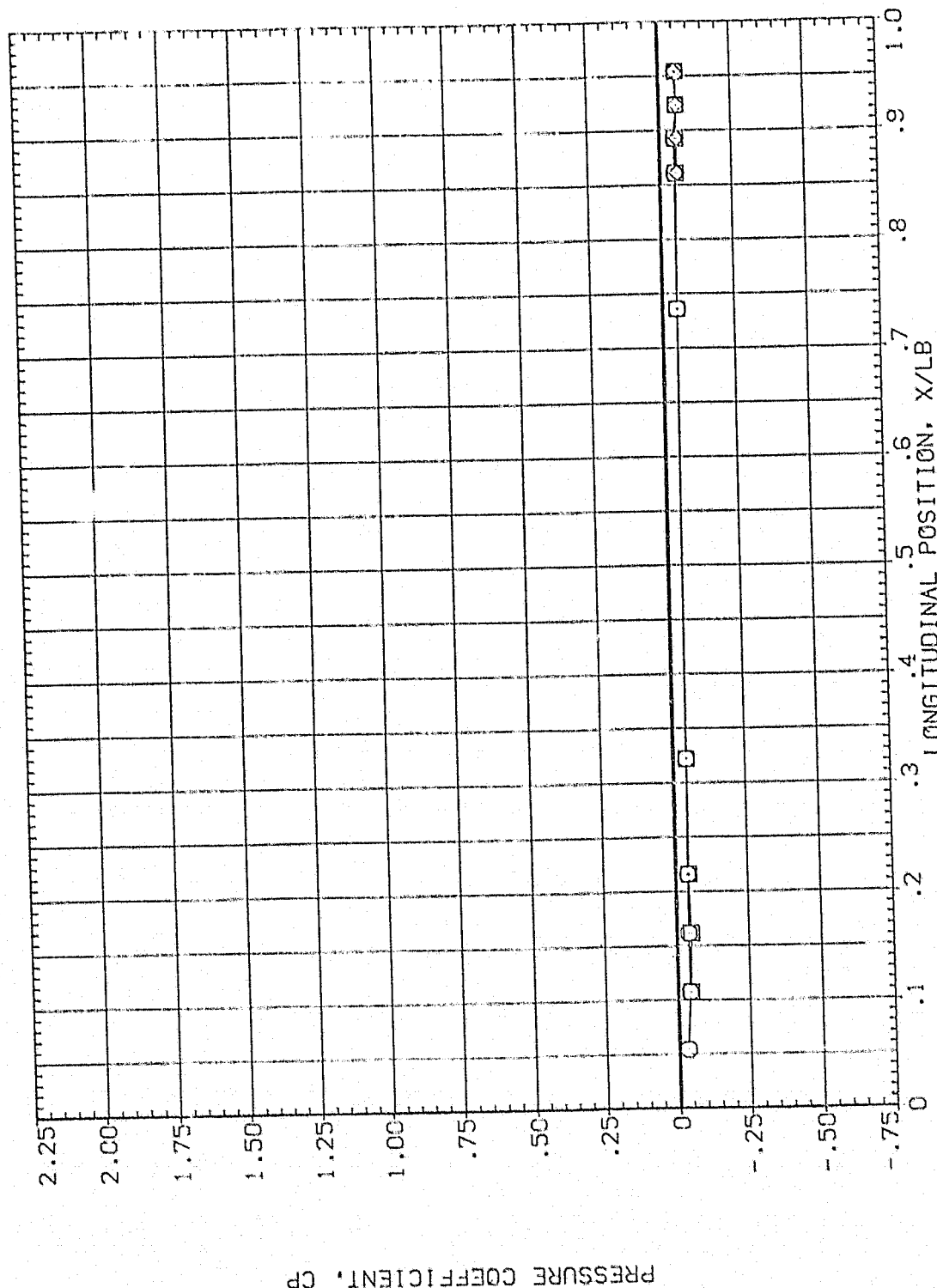


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 598 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
◇	45.000	51.000	3.480	OUNT	.000 OFFSET
○	67.500			PHI	2.000
□	90.000				60.000
					.000

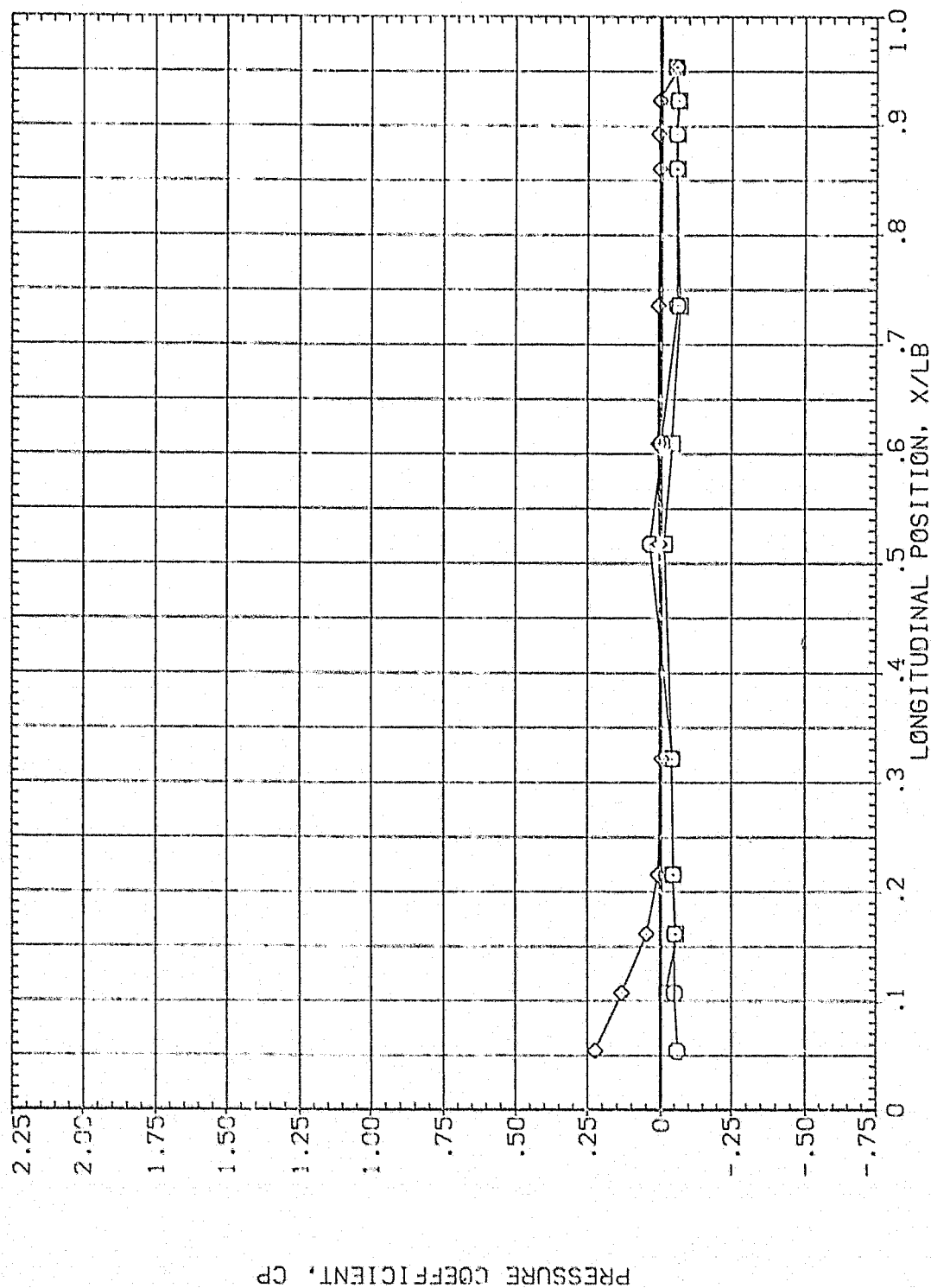


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL  
 ○  
 □  
 ◇

THETA  
 112.500  
 135.000  
 157.500

ALPHA  
 51.000

MACH  
 3.480

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 .000  
 2.000 PHI

60.000  
 .000

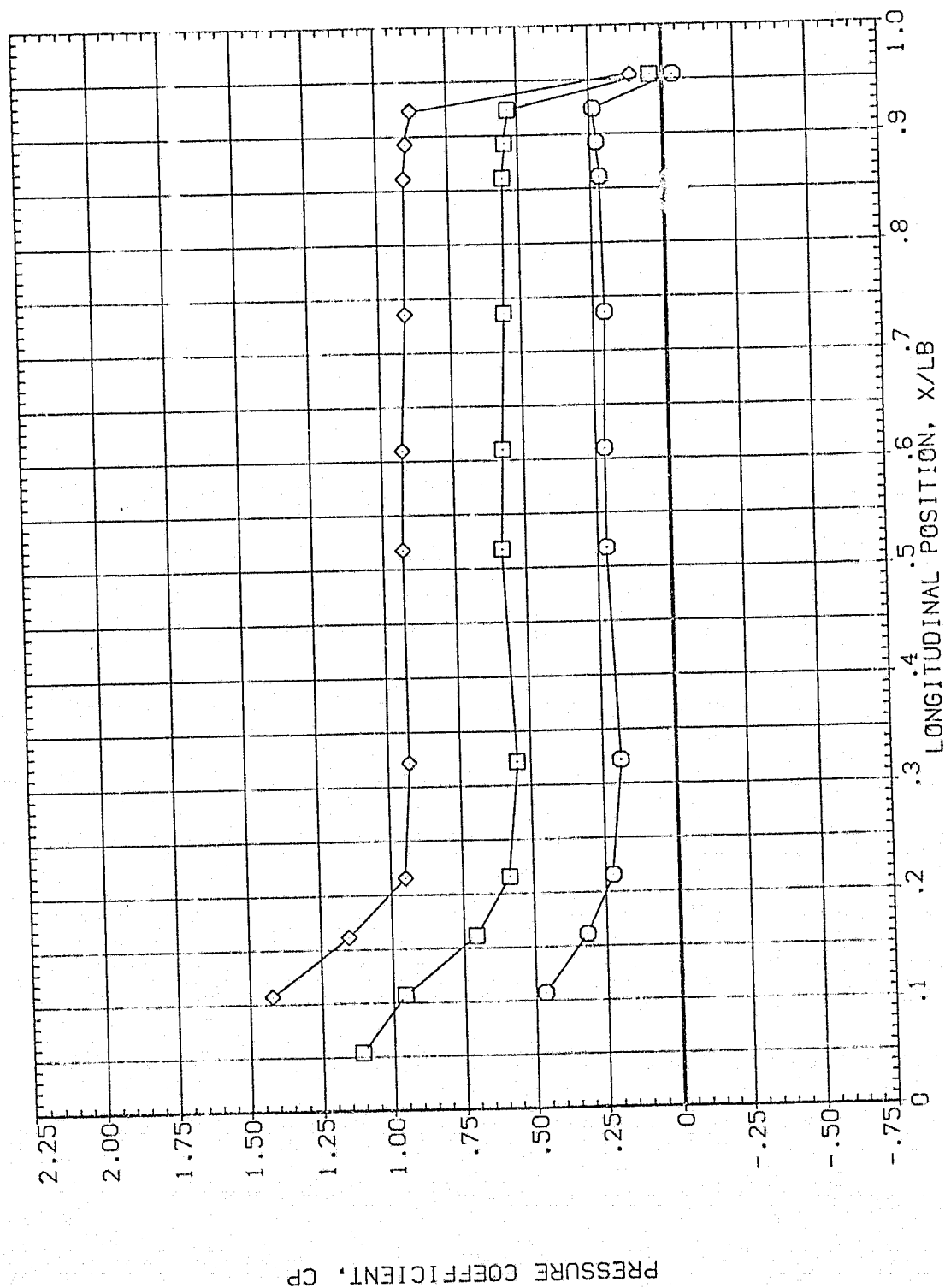


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTRUBERANCES

(P1A0611)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
○  
□  
◇

THETA  
180.000  
202.500  
225.000

ALPHA  
51.000

MACH  
3.480

BETA  
MOUNT

PARAMETRIC VALUES  
OFFSET  
PHI

60.000  
.000  
2.000  
.000

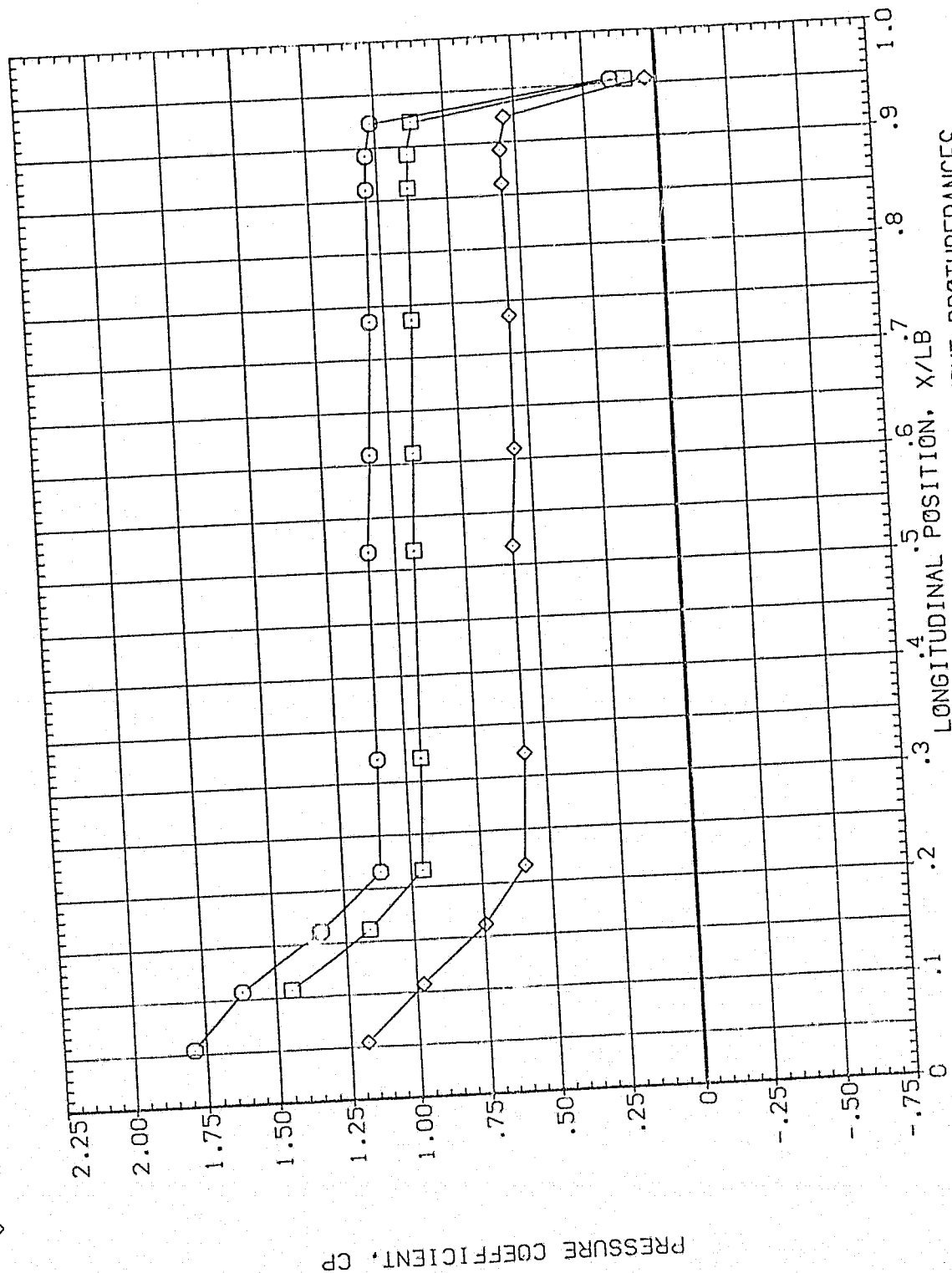


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	51.000	3.480	MOUNT	.000
□	270.000			OFFSET	60.000
◇	292.500			PHI	.000

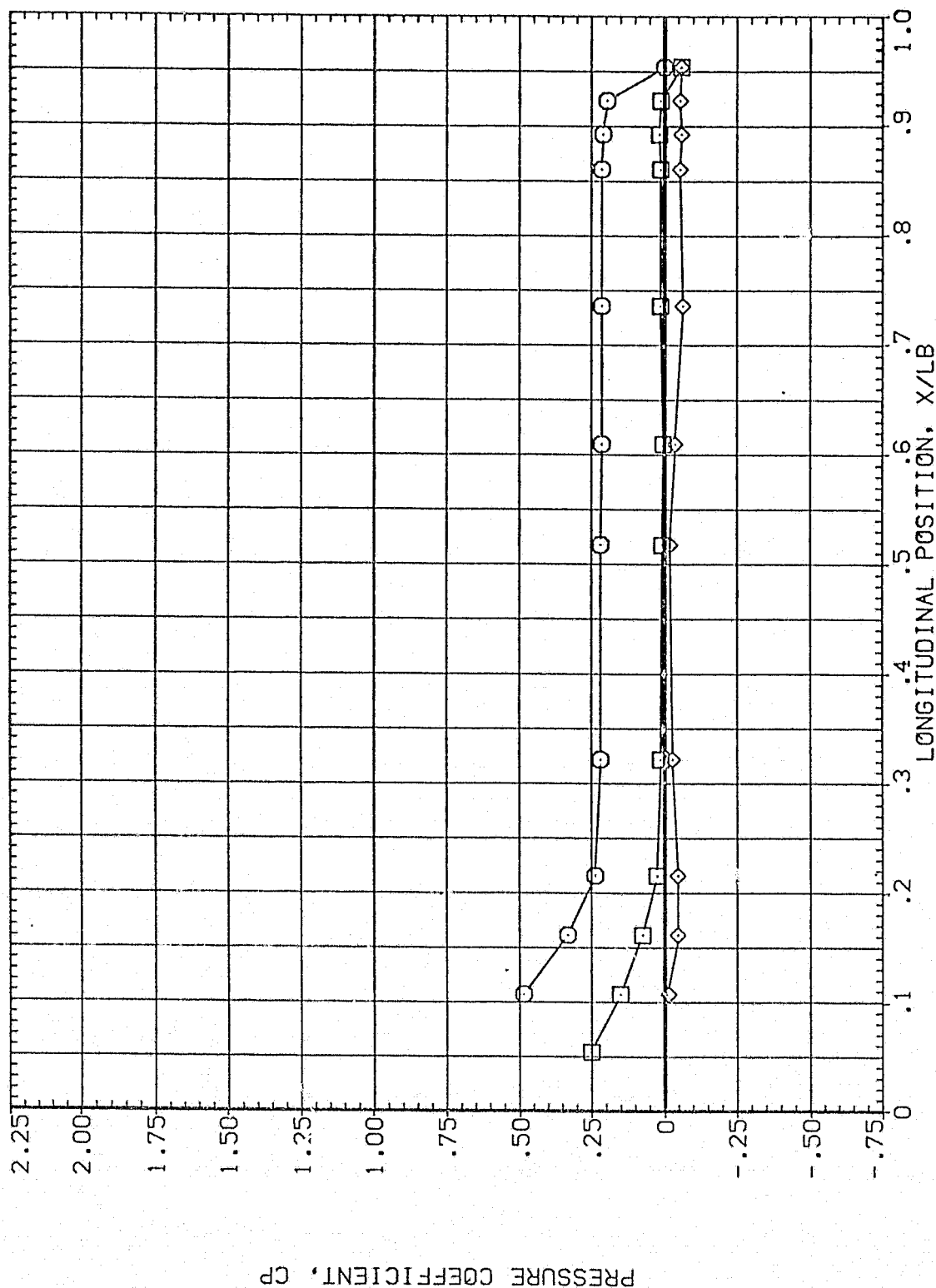


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	51.000	3.480	MOUNT	.000 OFFSET
□	326.000				2.000 PHI
◇	346.000				60.000

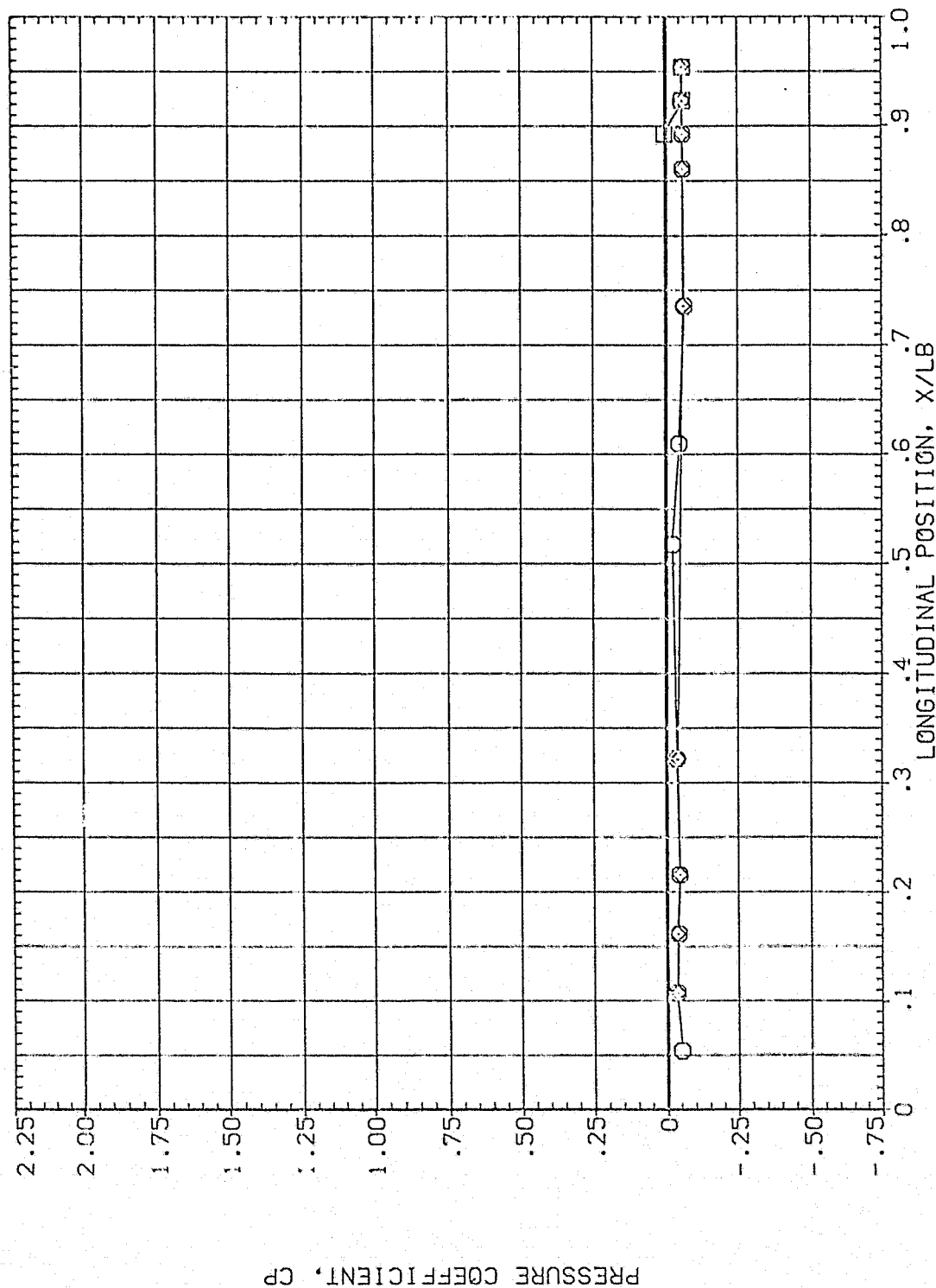


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



# MFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL  
 ( )  
 ( )  
 ( )

THETA  
 .000  
 14.000  
 24.000

ALPHA  
 54.130

MACH  
 3.480

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 CFFSET  
 2.000 PHI  
 60.000  
 .000

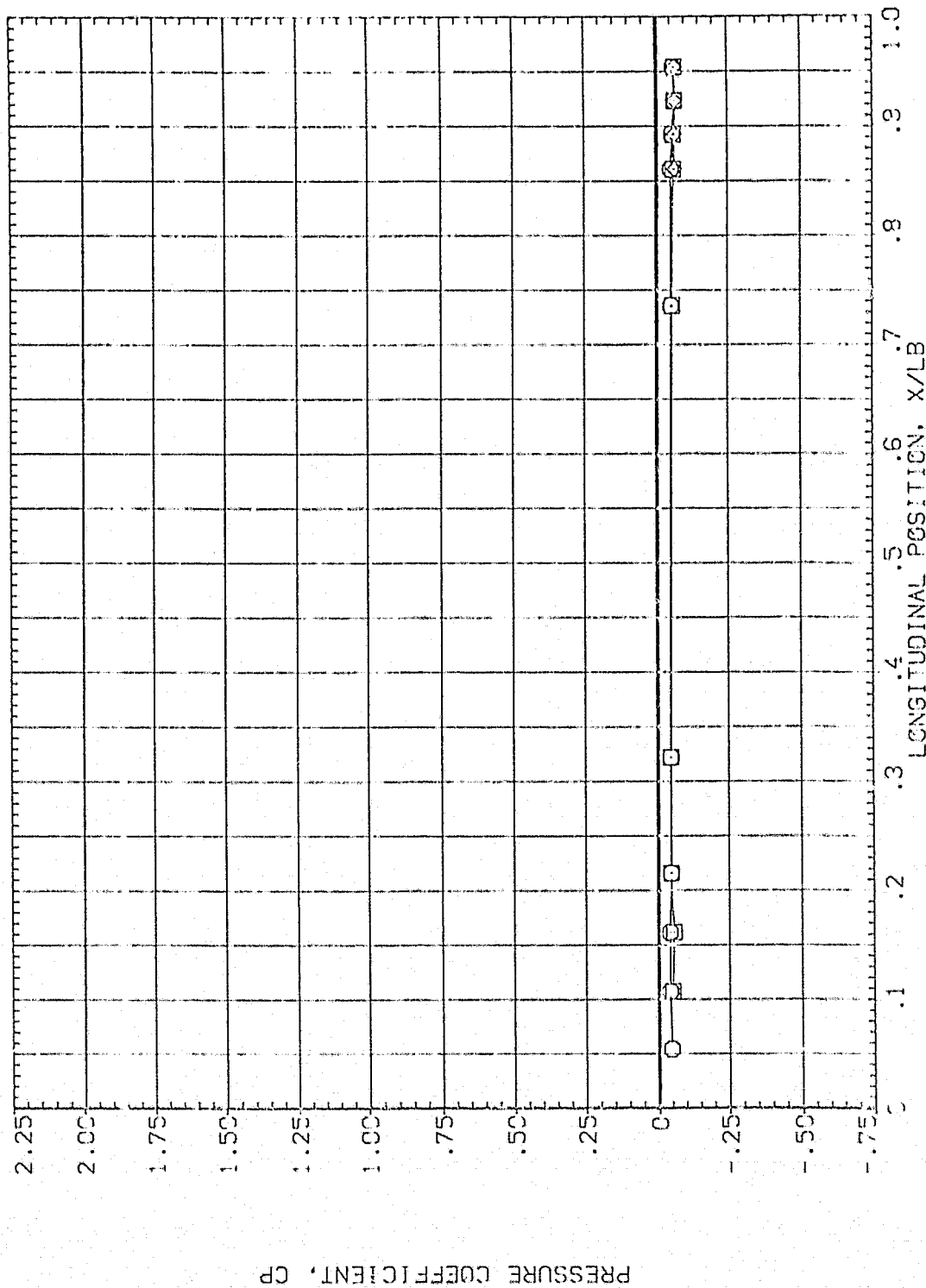


FIG. 2 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
◇	45.000	54.130	3.480	HEIGHT	.000 OFFSET
□	67.500				2.000 PHI
◇	90.000				60.000

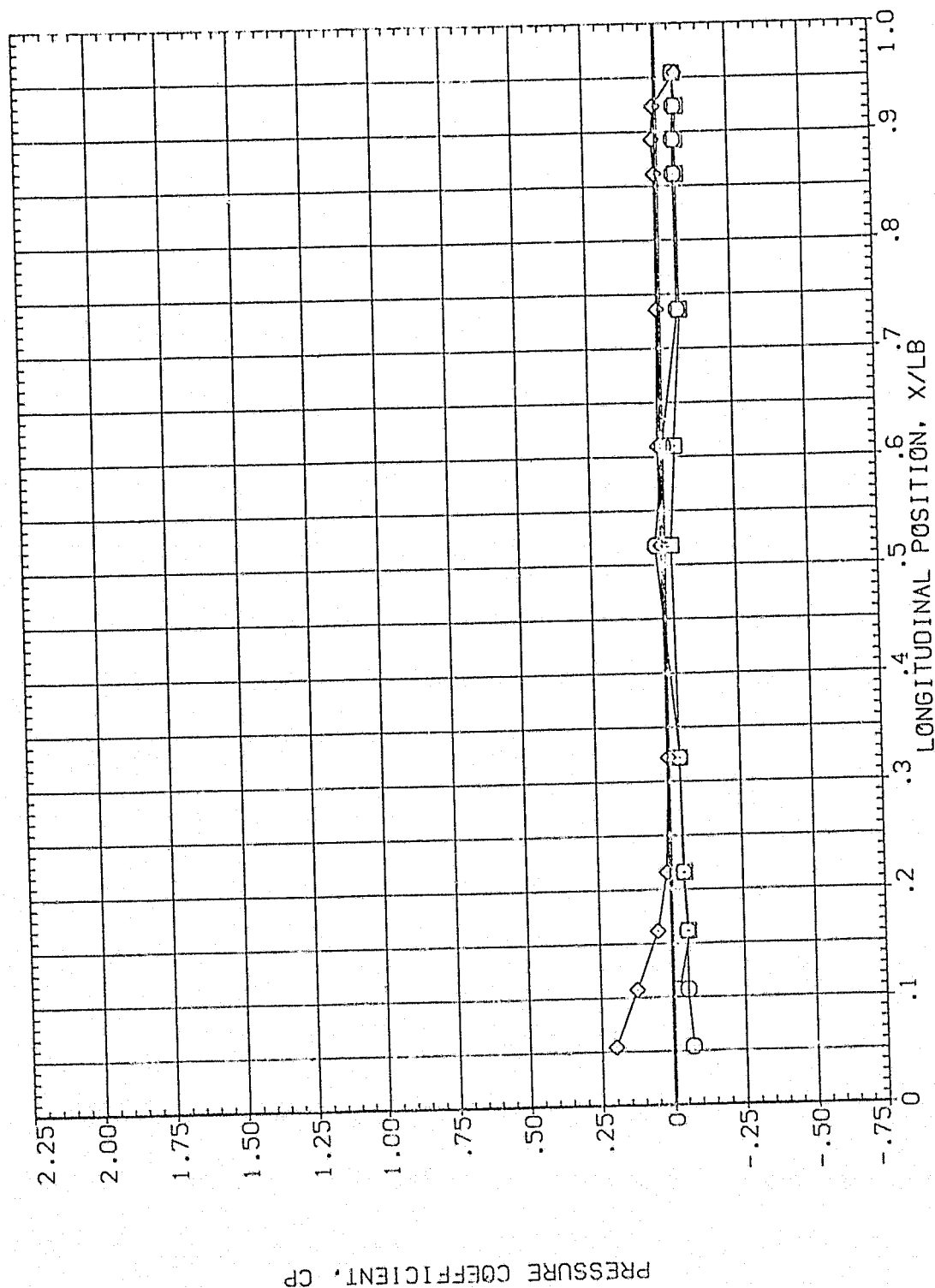


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	112.500	54.130	3.480	MOUNT	.000
□	135.000				2.000
◇	157.500				PHI
					50.000
					.000

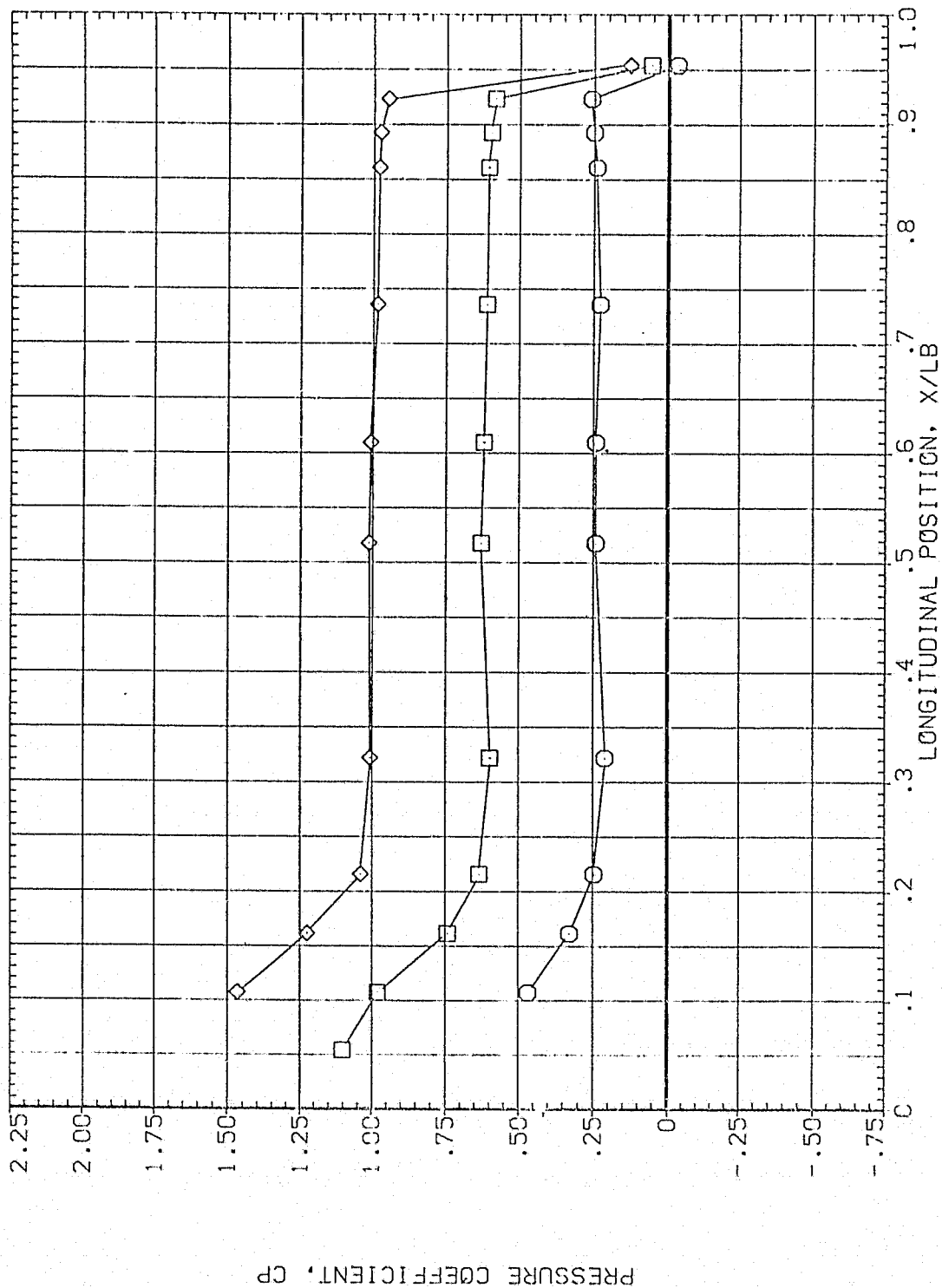


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL THETA ALPHA MACH  
 ○ 180.000 54.130 3.480  
 □ 202.500  
 ◇ 225.000

PARAMETRIC VALUES  
 .000 .000 60.000  
 BETA OFFSET PHI  
 MOUNT 2.000

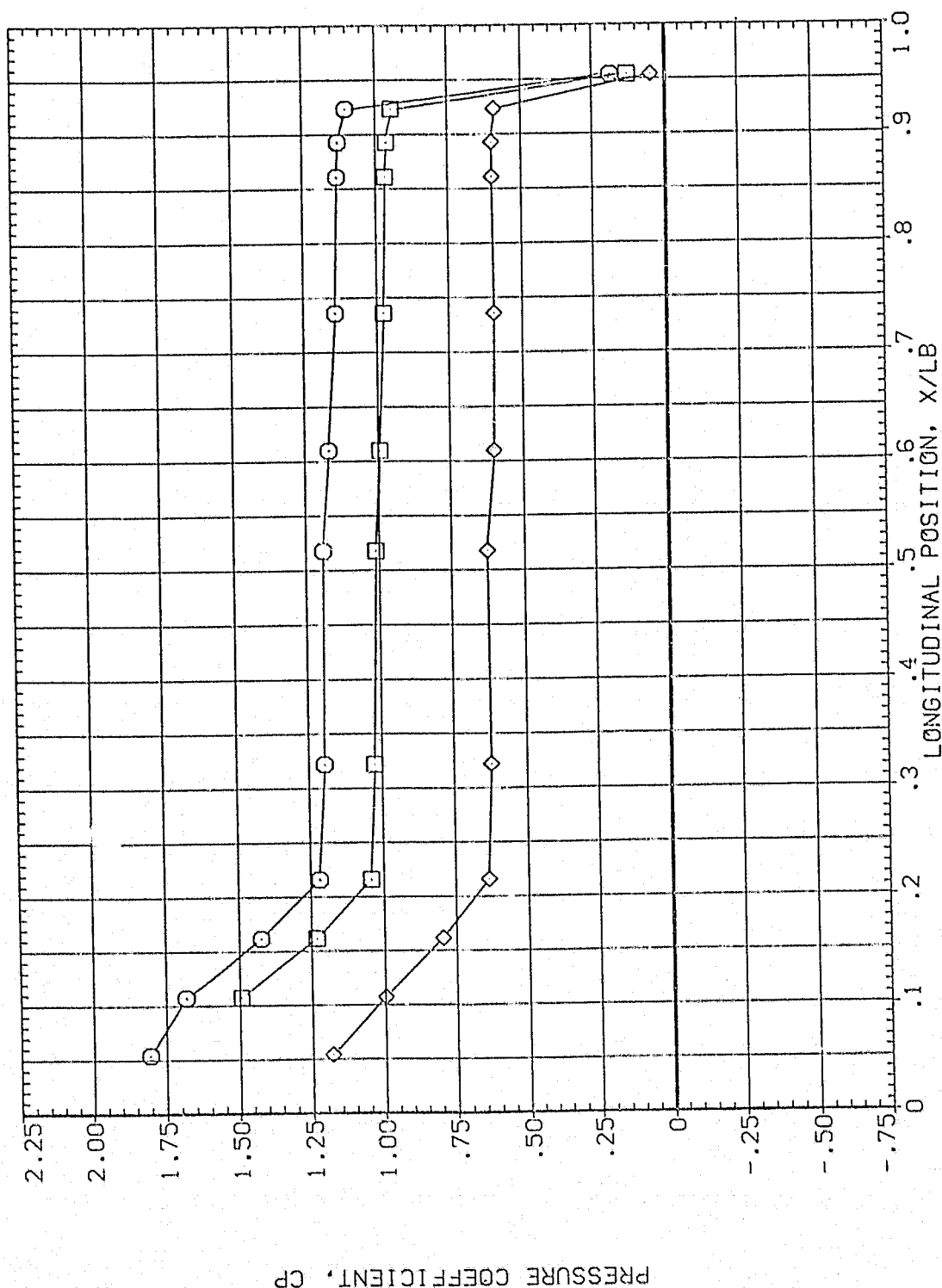


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	54.130	3.480	.000	.000	.000
□	270.000			2.000		
◇	292.500					

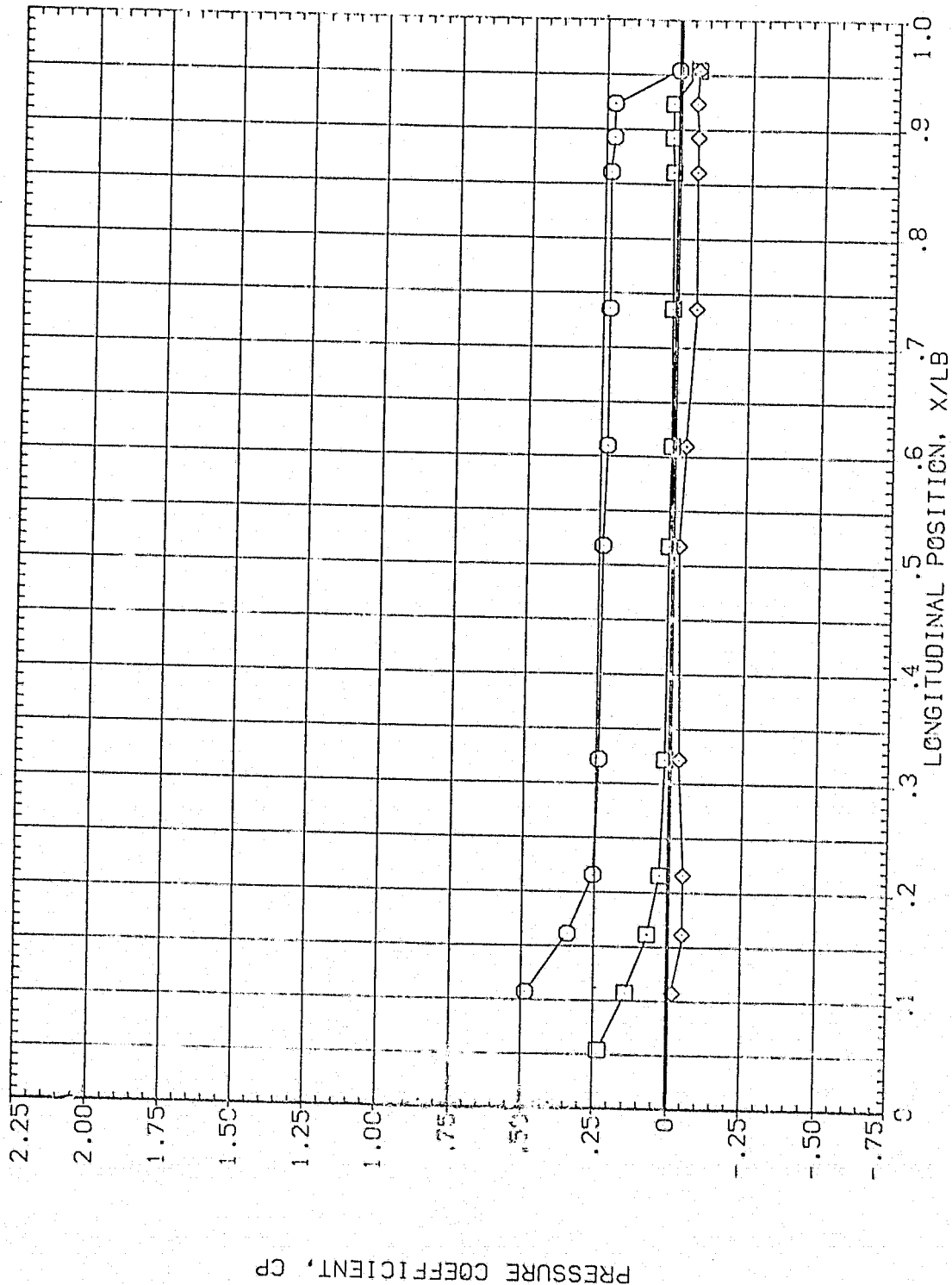


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	315.000	54.130	3.480	.000	2.000	.000
□	326.000					
◇	346.000					

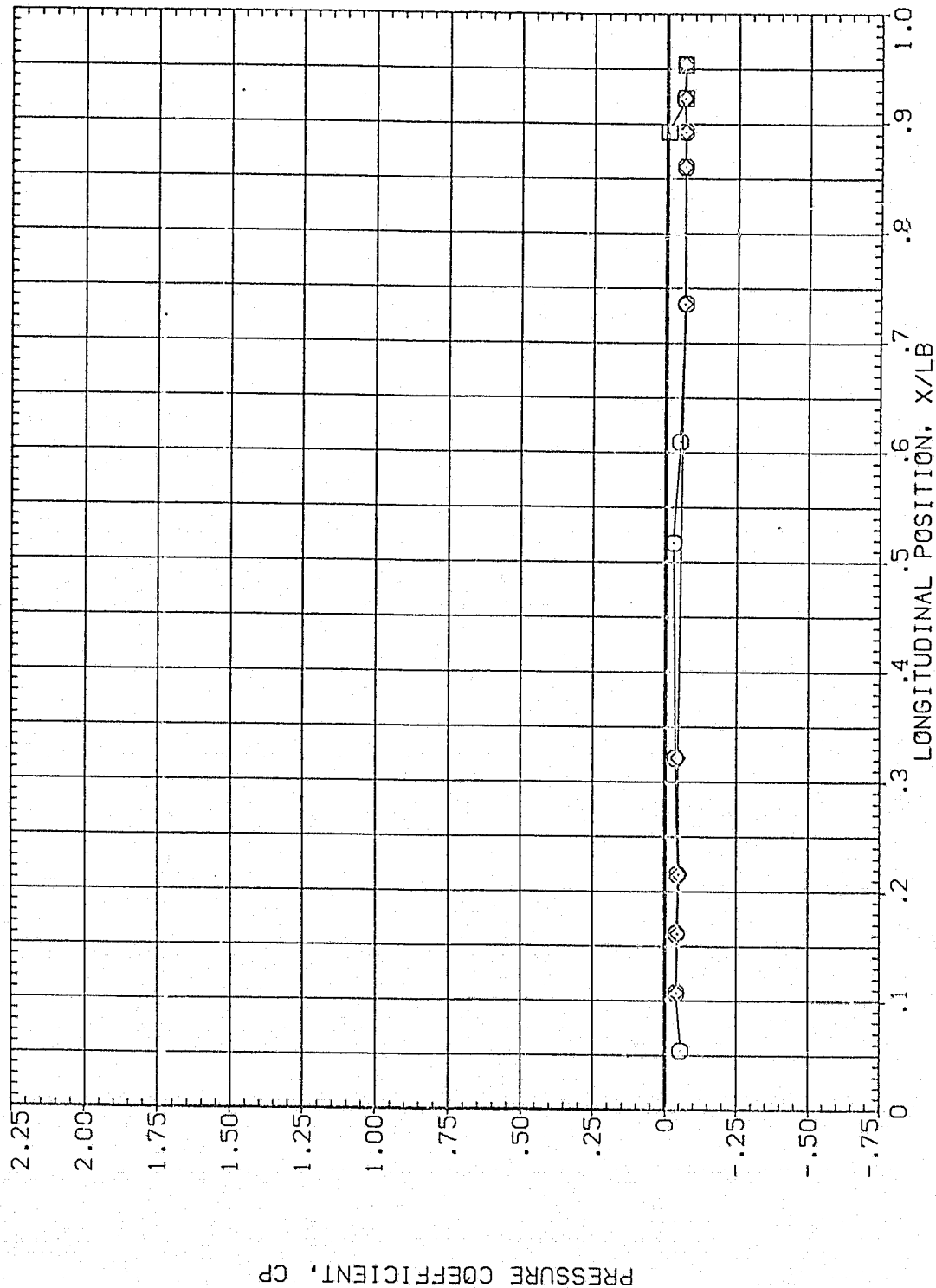


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.000	57.130	3.480	MOUNT	.000	60.000
□	14.000				2.000	
◇	24.000					.000

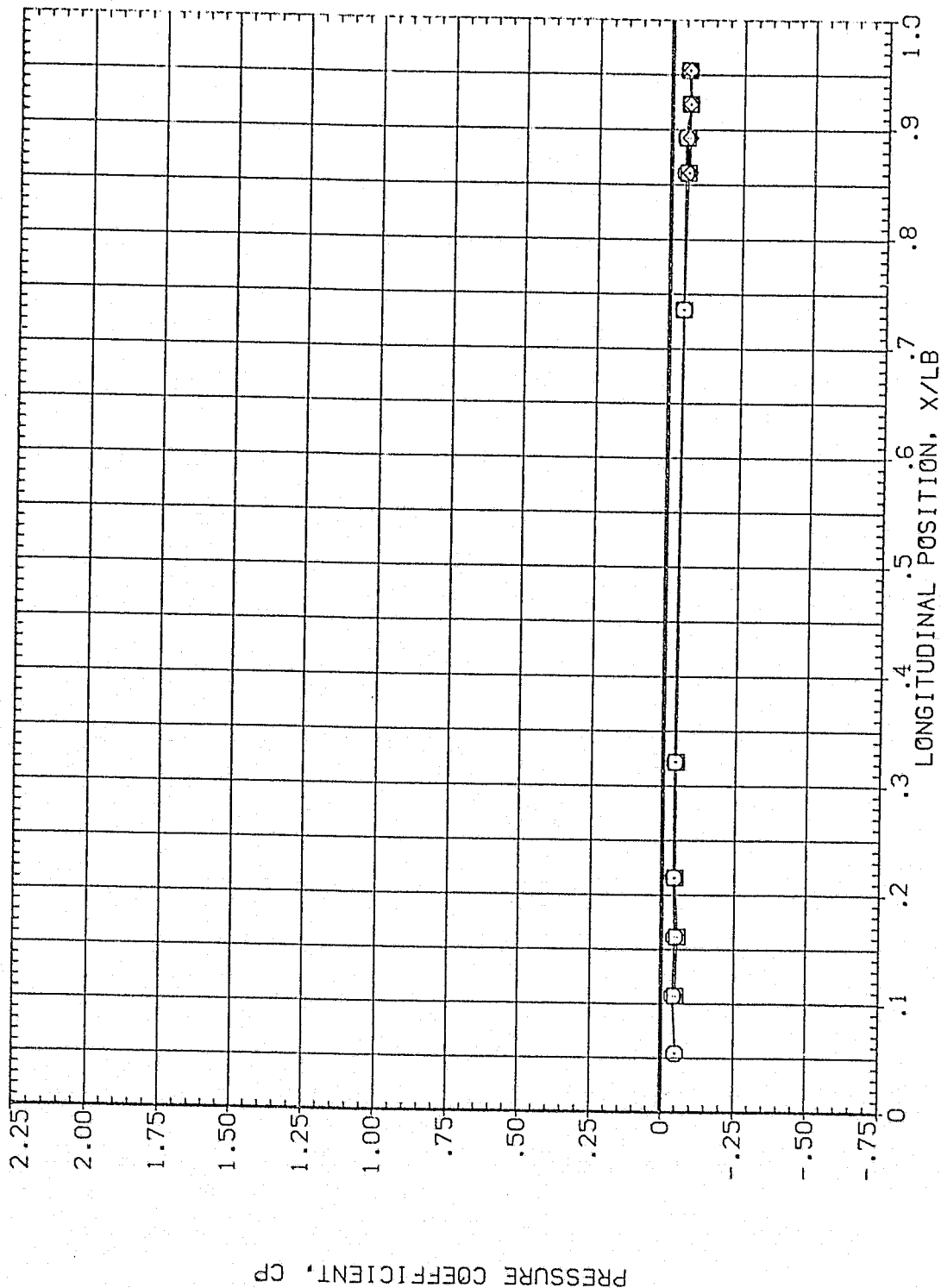


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL  
 □  
 ◇

THETA  
 45.000  
 67.500  
 90.000

ALPHA  
 57.130

MACH  
 3.480

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 2.000

OFFSET  
 PHI

60.000  
 .000

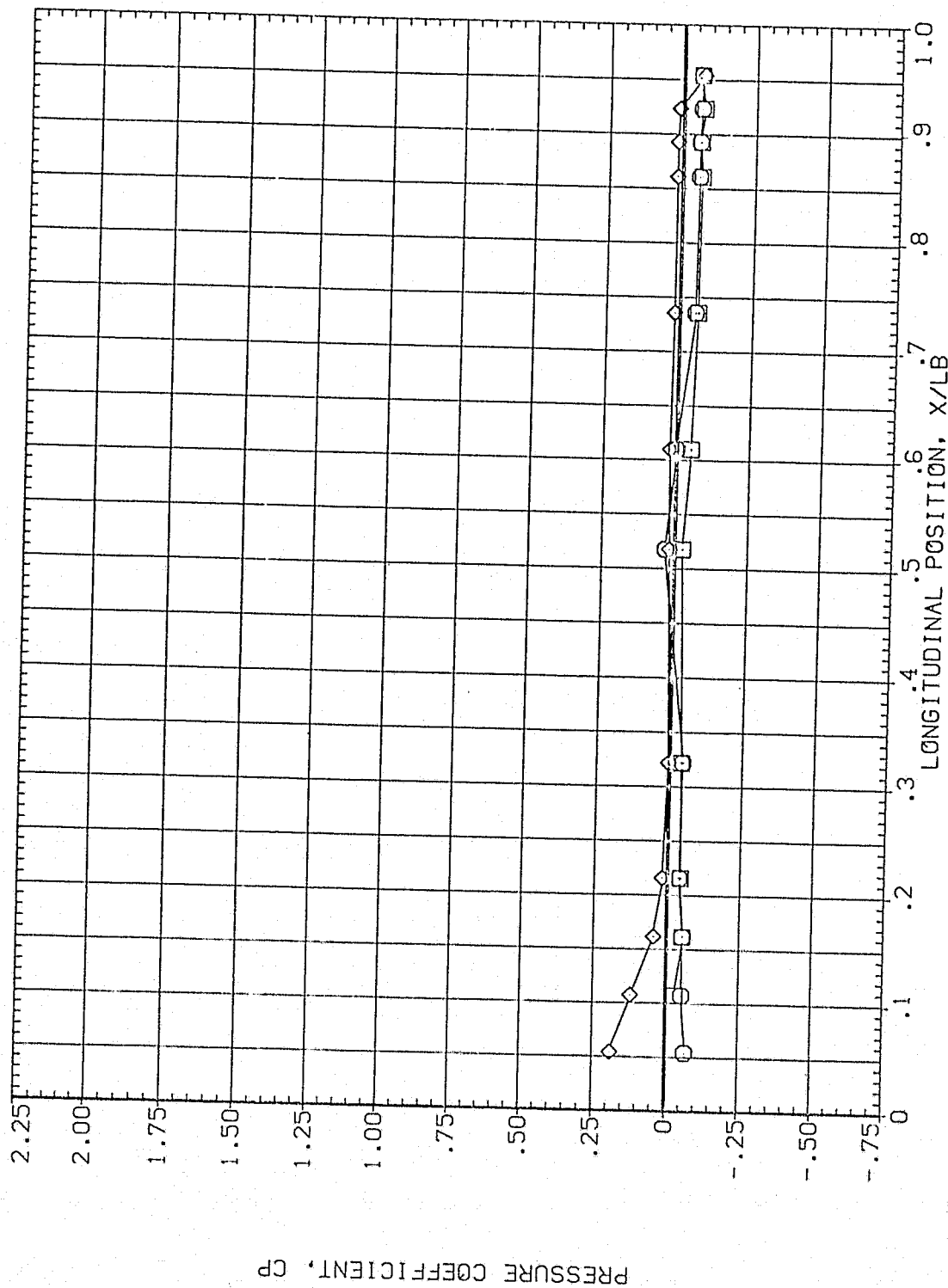


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	112.500	57.130	3.480	MOUNT	.000 OFFSET
□	135.000				2.000 PHI
◇	157.500				60.000

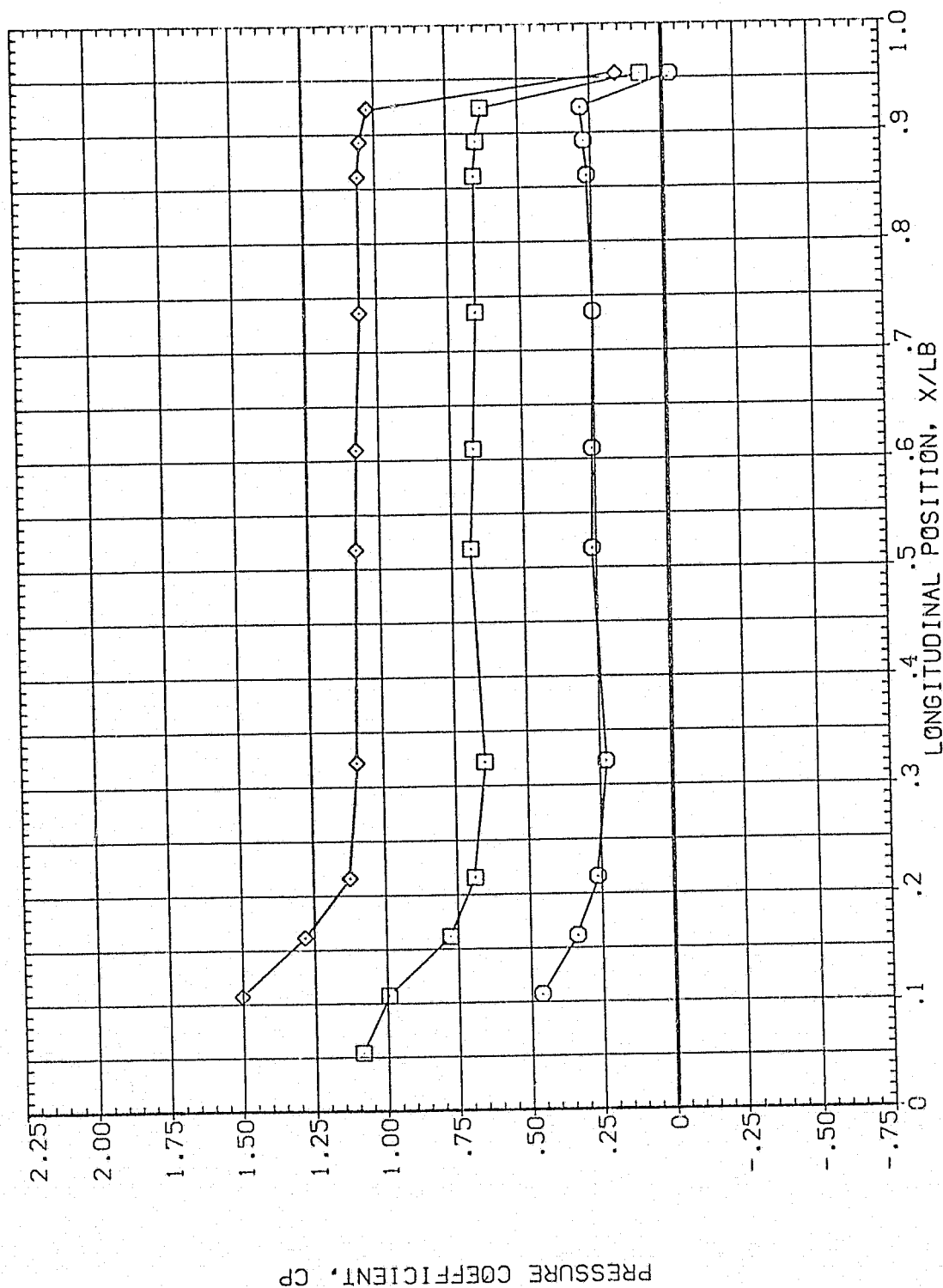


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	PHI
○	180.000	57.130	3.480	MOUNT	2.000	60.000
□	202.500					.000
◇	225.000					

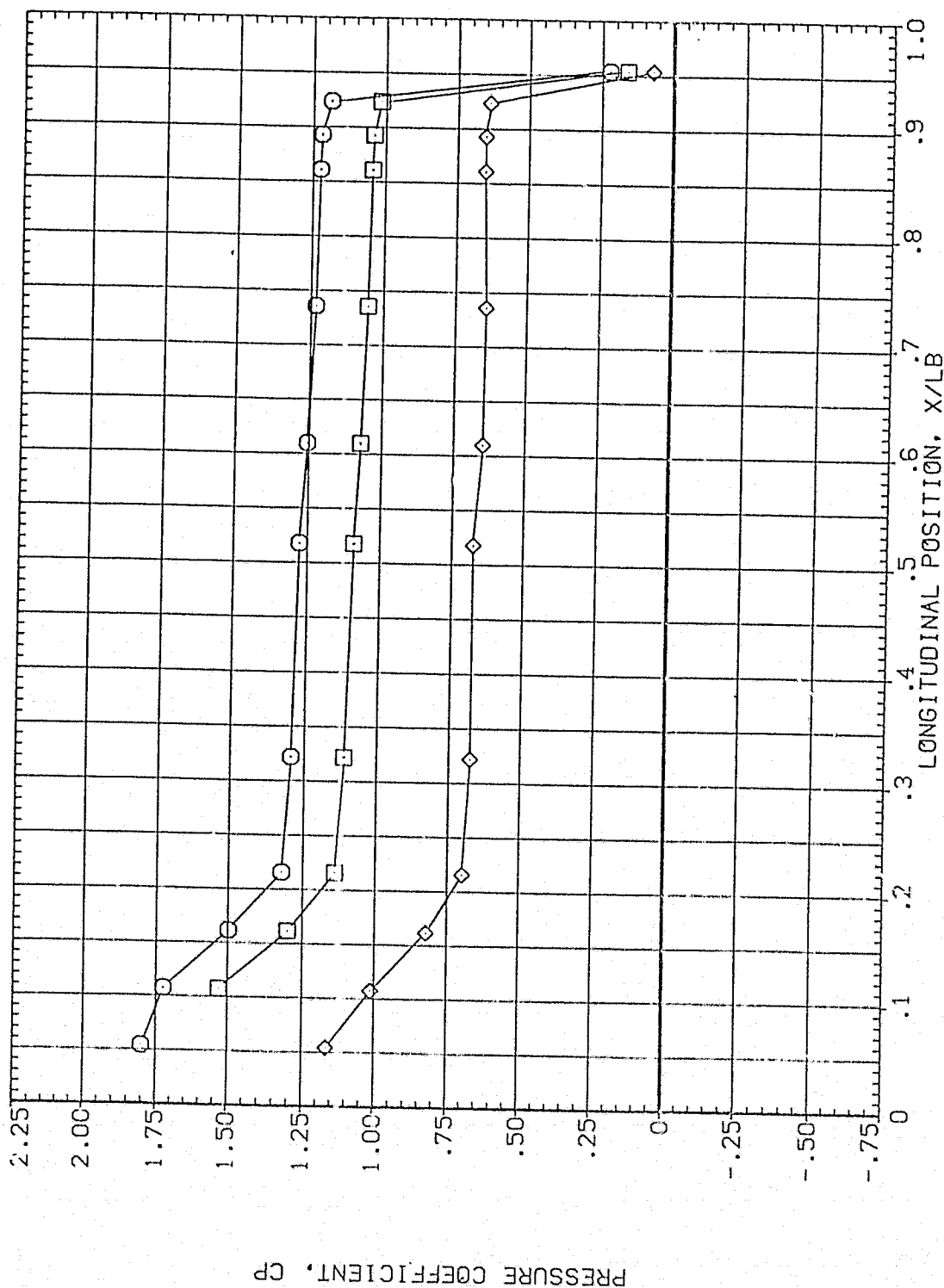


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
PHI 60.000  
OFFSET .000

SYMBOL THETA ALPHA MACH  
○ 247.500 57.130 3.480  
□ 270.000  
◇ 292.500

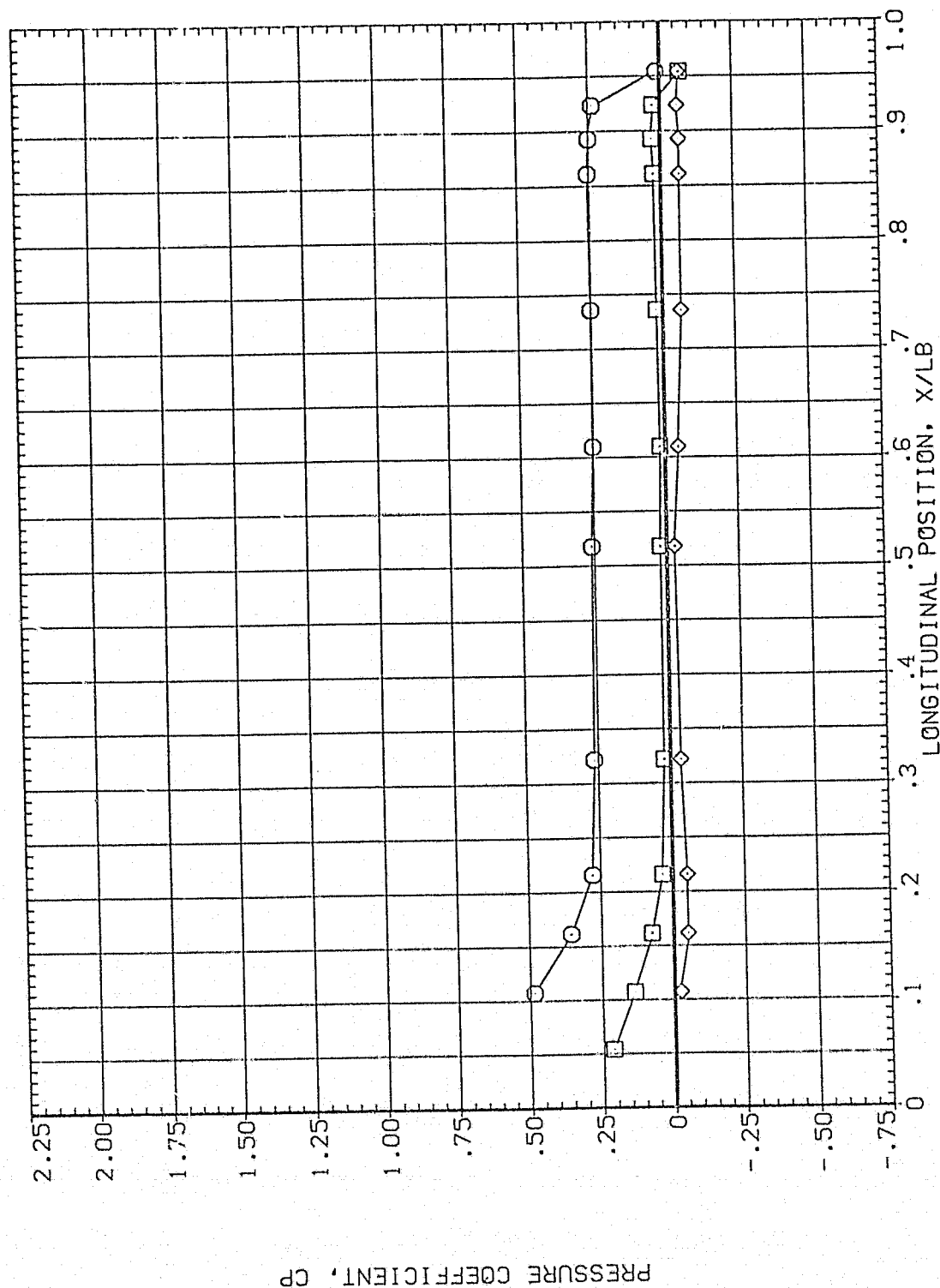


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

(P1A063)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
○  
□  
◇

THETA 315.000  
ALPHA 57.130  
MACH 3.480

PARAMETRIC VALUES  
C<sub>D</sub> 2.000  
C<sub>L</sub> 60.000  
C<sub>M</sub> 2.000  
PHI .000

BETA  
MOUNT

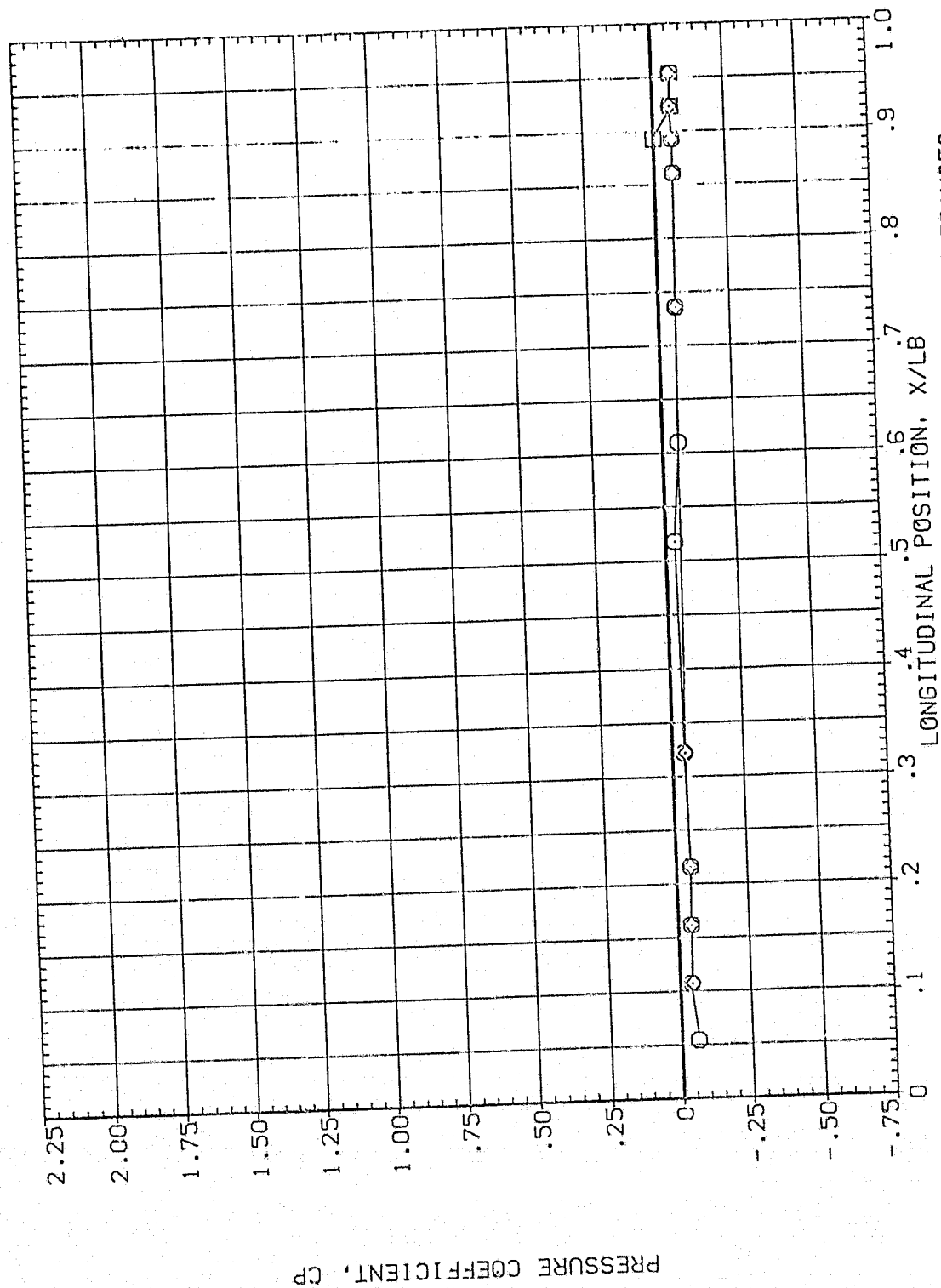


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTRUSIONS

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.000	60.130	3.480	MOUNT	.000
□	14.000				OFFSET
◇	24.000				PHI
					60.000
					.000

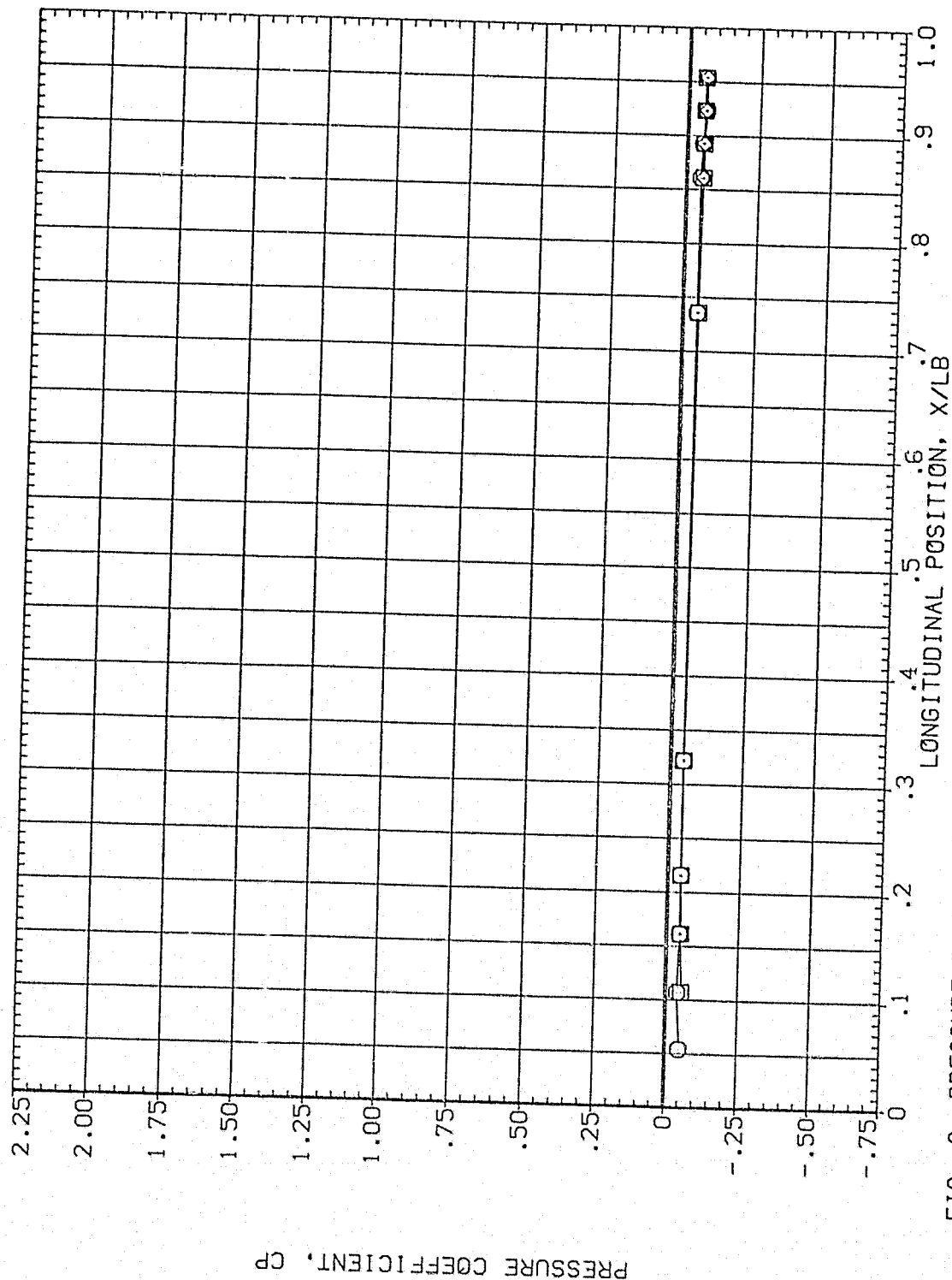


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 ◇  
 □  
 ○

THETA  
 45.000  
 67.500  
 90.000

ALPHA  
 60.130

MACH  
 3.480

PARAMETRIC VALUES  
 .000  
 .000  
 2.000  
 60.000  
 OFFSET  
 PHI  
 .000

BETA  
 COUNT

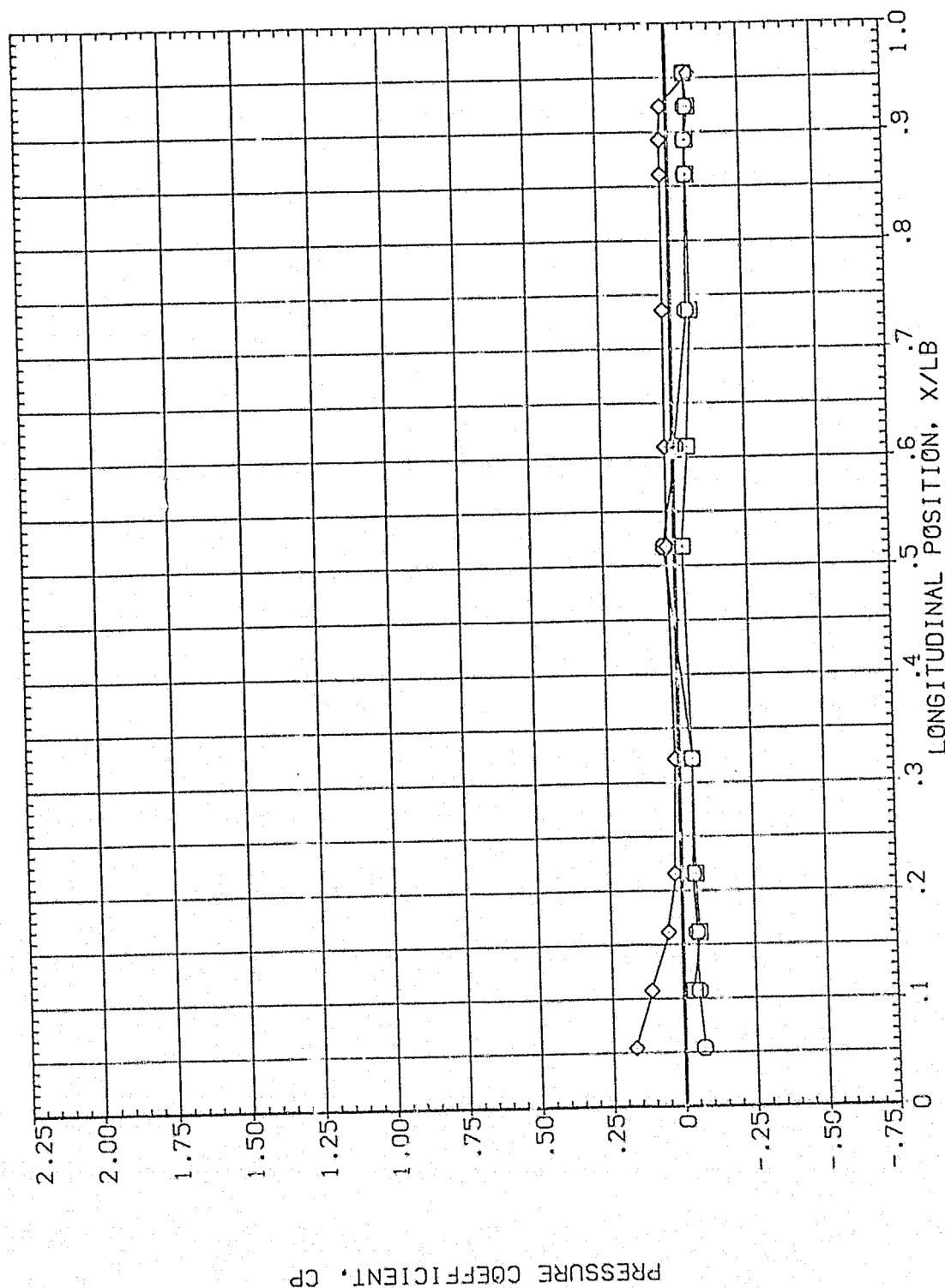


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL

○  
□  
◇

THETA  
112.500  
135.000  
157.500

ALPHA  
60.130

MACH  
3.480

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI  
60.000  
.000

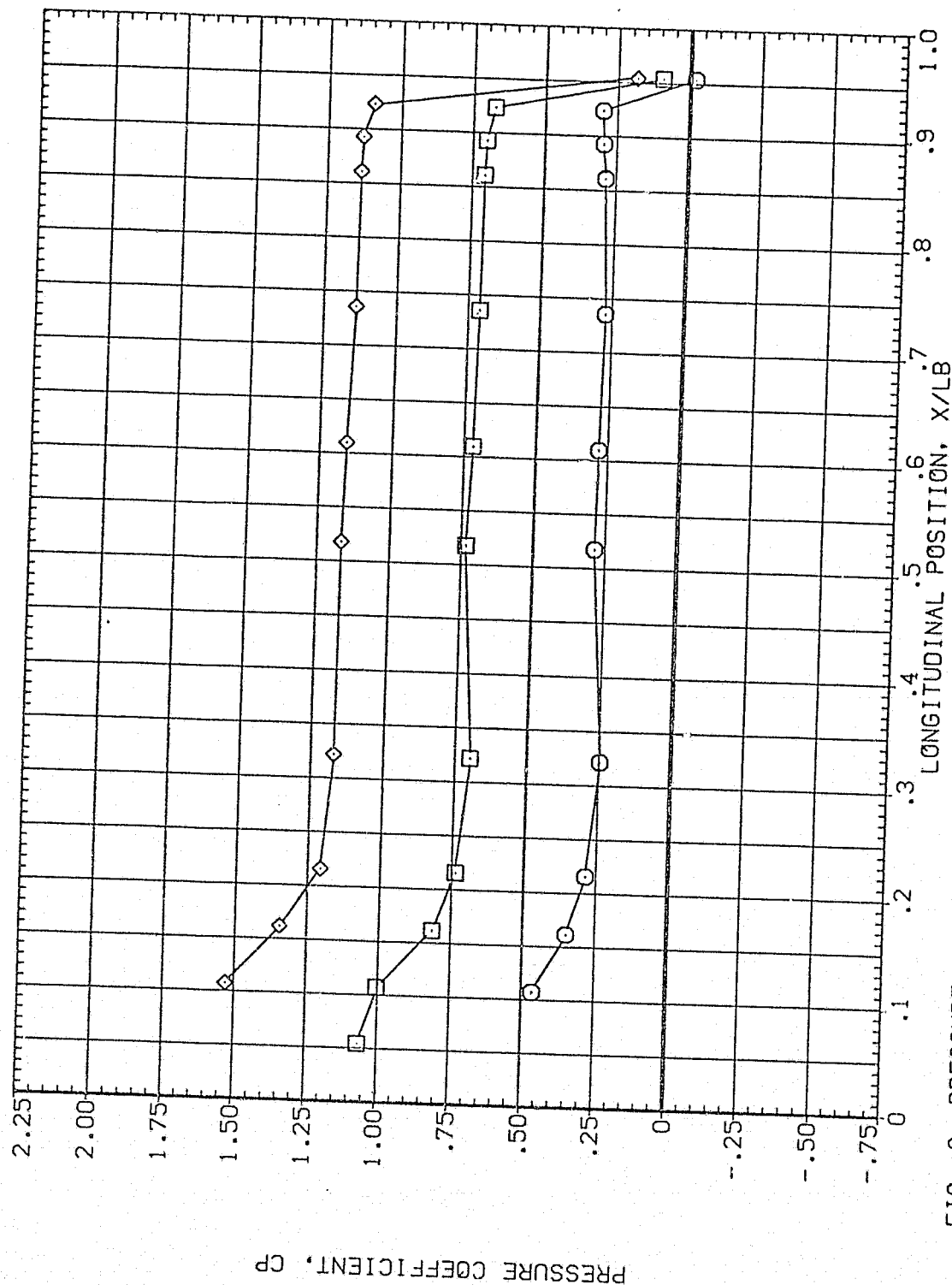


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	60.130	3.480	MOUNT	.000
□	202.500			OFFSET	2.000
◇	225.000			PHI	.000

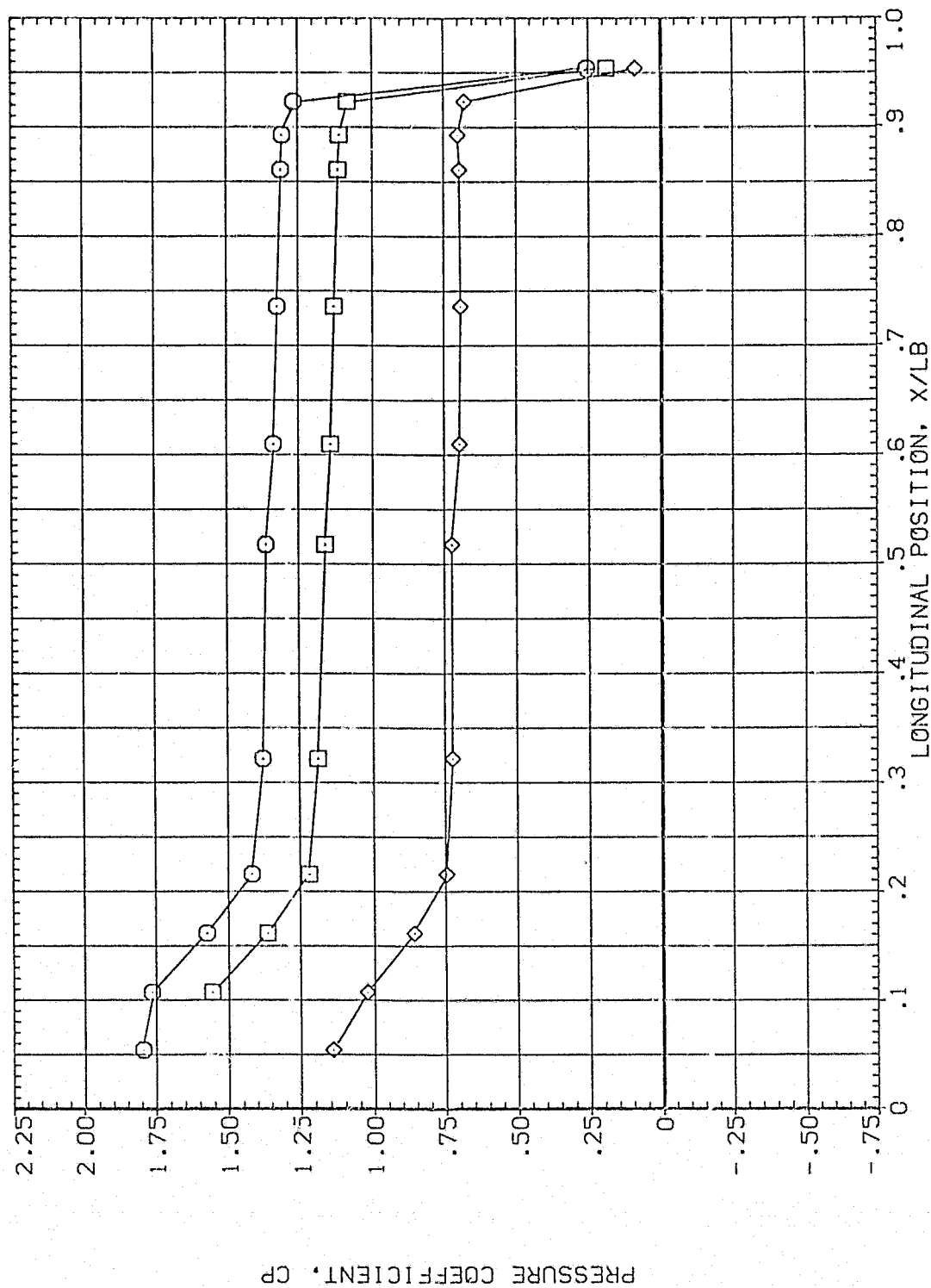


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	247.500	270.000	60.130	60.130	3.480	3.480	BETA	.000	OFFSET	60.000
○	292.500						MOUNT	2.000	PHI	.000
□										
◇										

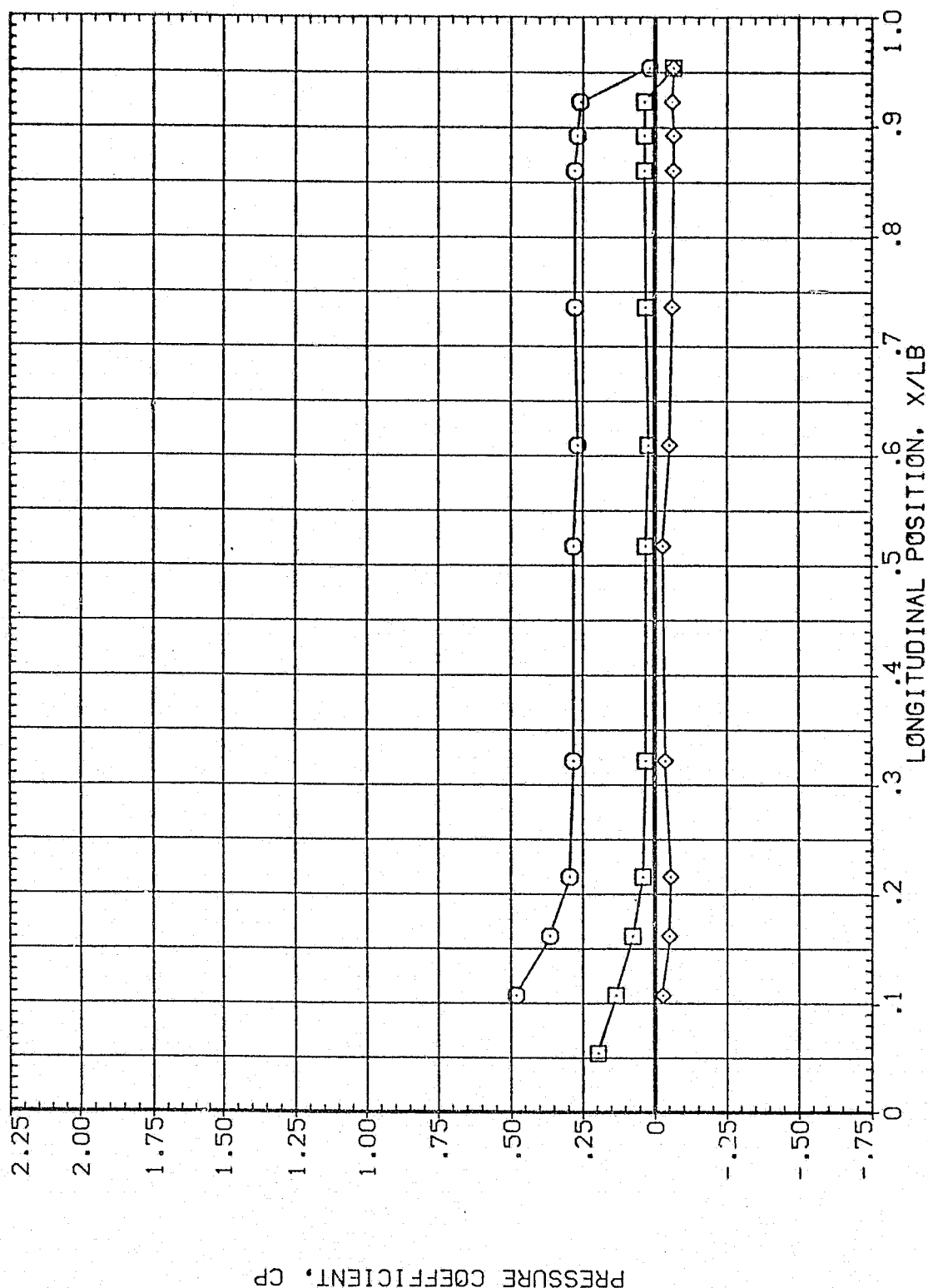


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL THETA ALPHA MACH  
 ○ 315.000 60.130 3.480  
 □ 326.000  
 ◇ 346.000

PARAMETRIC VALUES  
 BETA .000 OFFSET 60.000  
 MOUNT 2.000 PHI .000

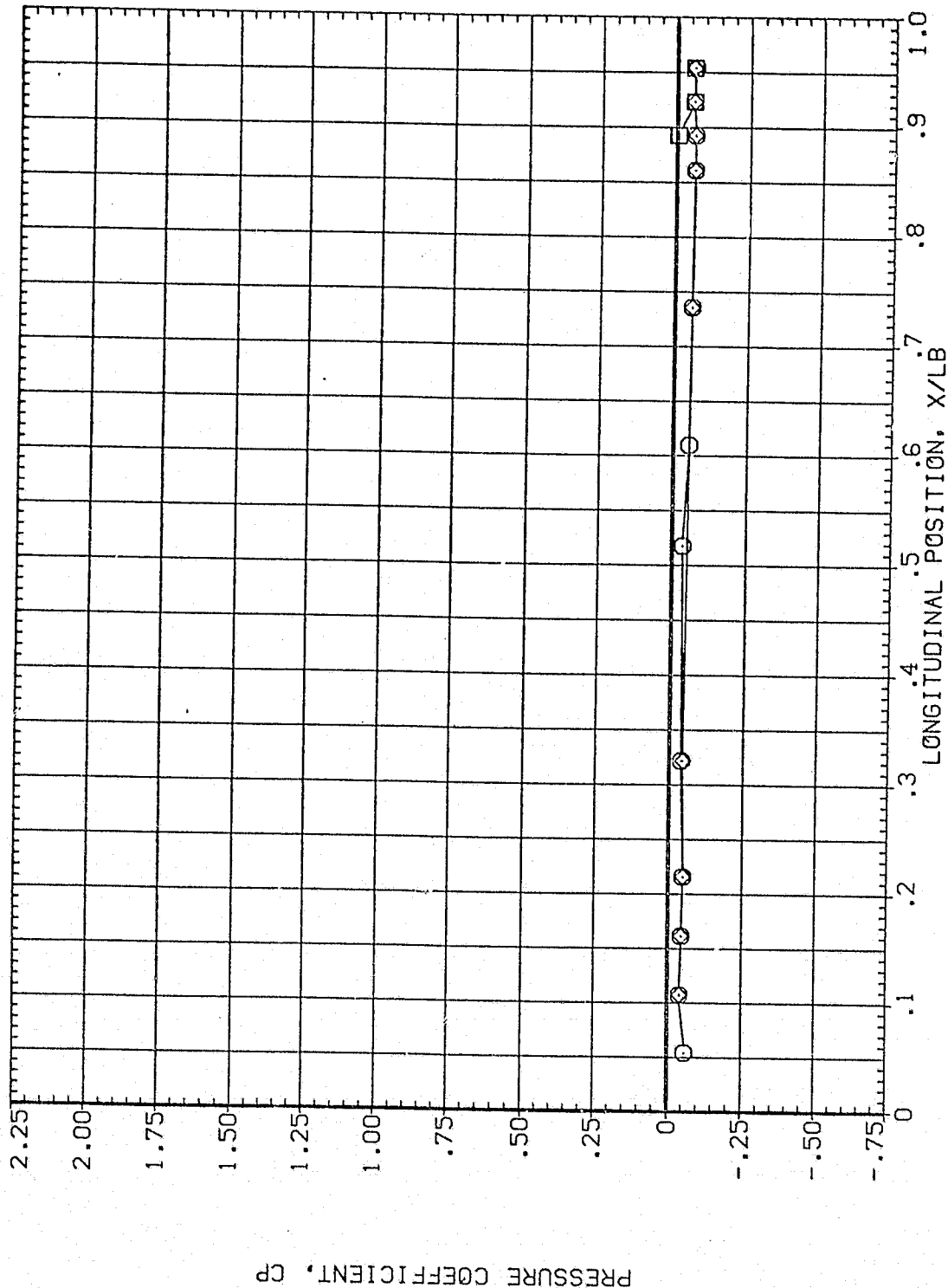


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.000	63.130	3.480	MOUNT	.000 OFFSET 60.000
□	14.000				2.000 PHI .000
◇	24.000				

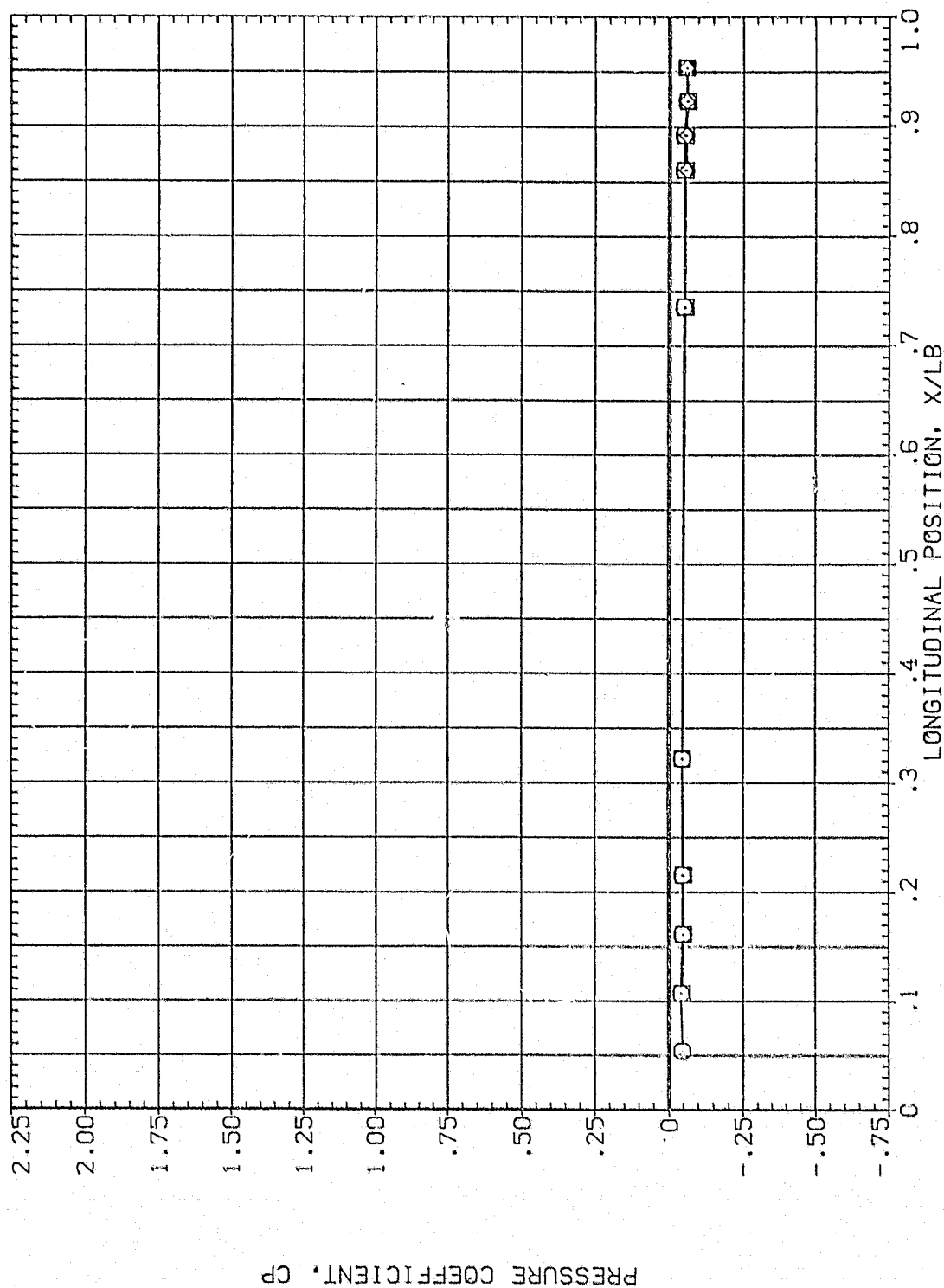


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL  
 ○  
 □  
 ◇

THETA  
 45.000  
 67.500  
 90.000

ALPHA  
 63.130

MACH  
 3.480

PARAMETRIC VALUES  
 .000 .000 60.000  
 2.000 .000  
 BETA  
 MOUNT PHI

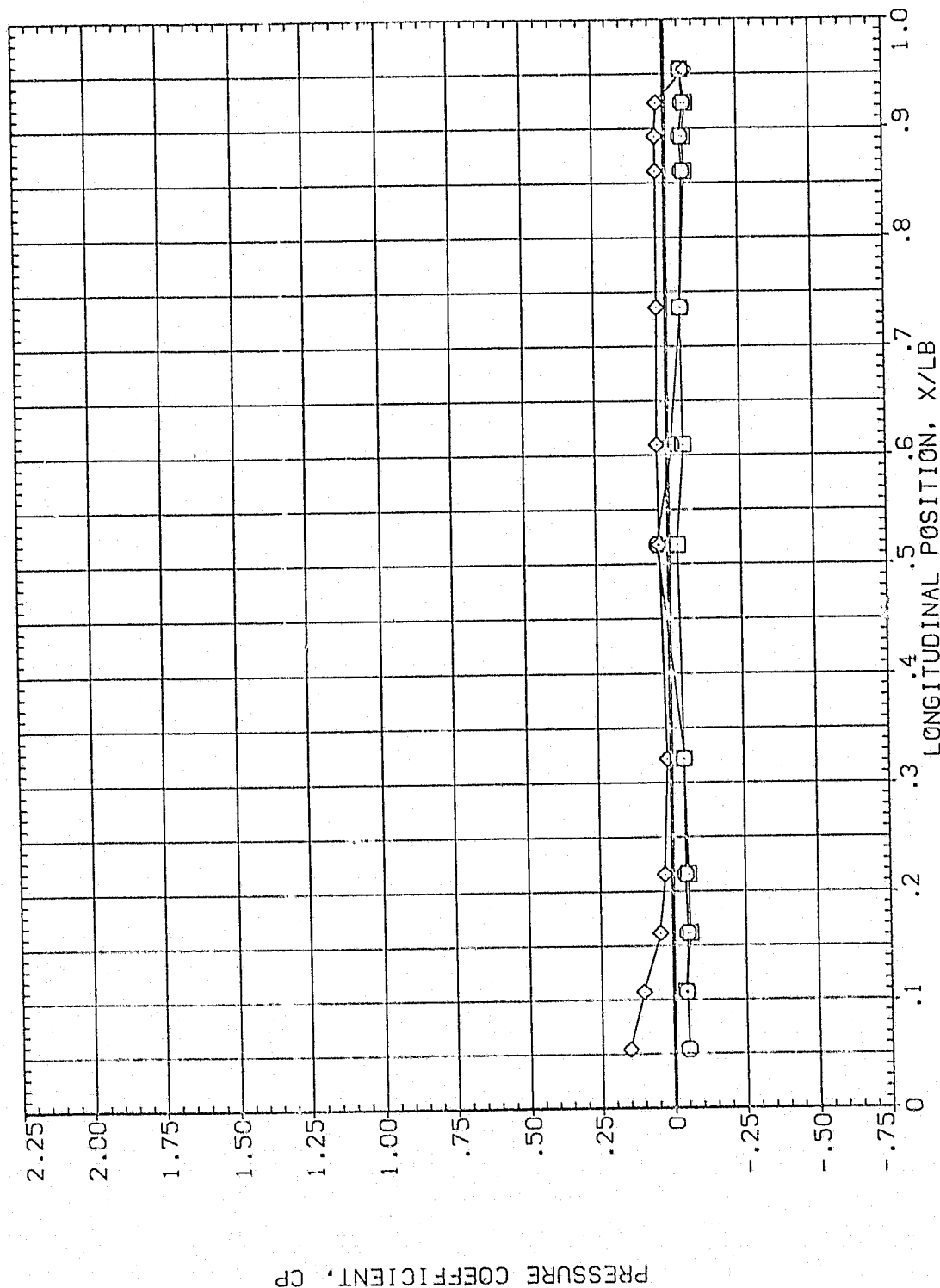


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

PARAMETRIC VALUES  
BETA .000  
HOUNT 2.000  
PHI 60.000  
OFFSET .000

THETA ALPHA MACH  
112.500 63.130 3.480  
135.000  
157.500

SYMBOL  
○ □ ◇

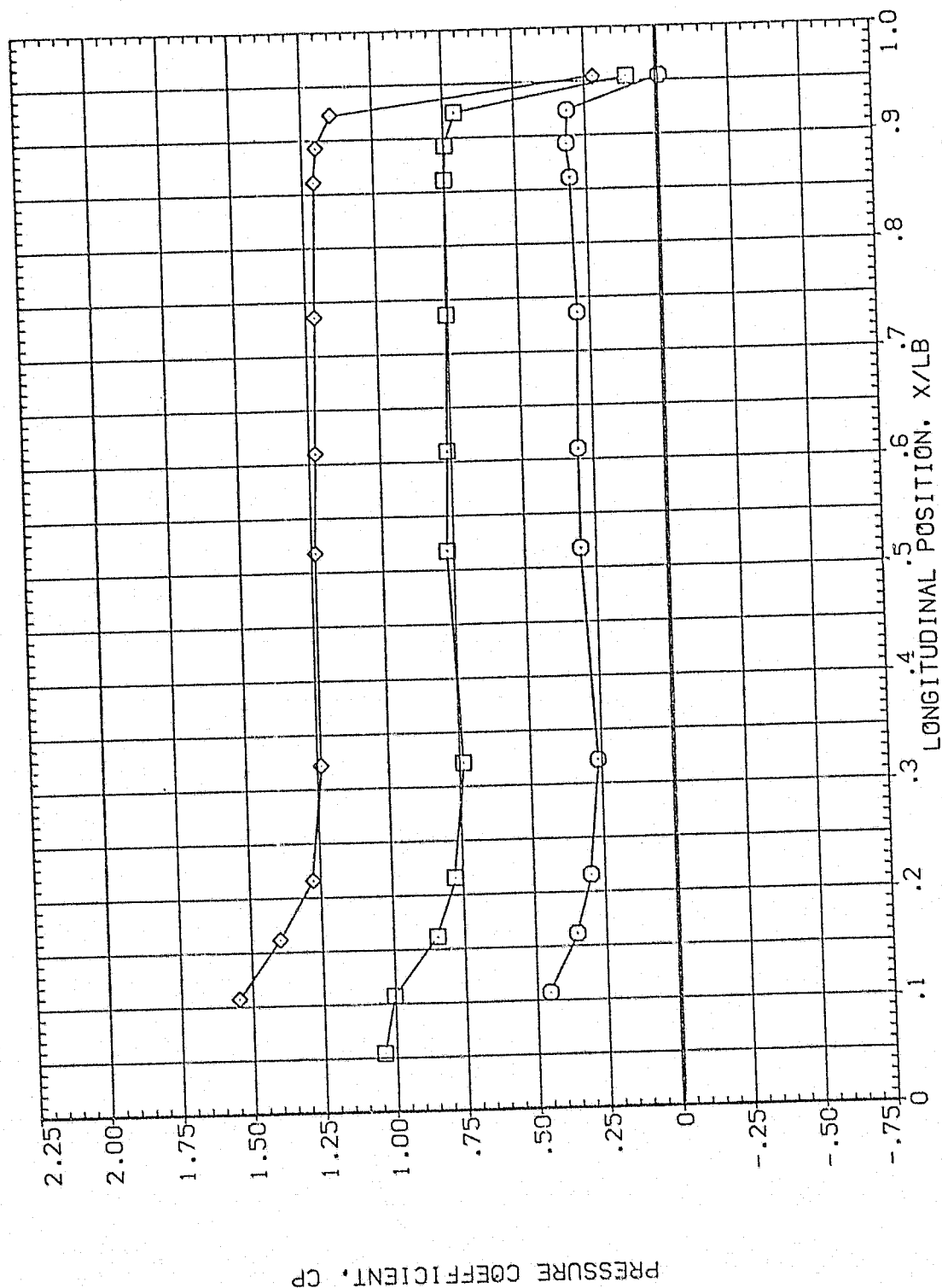


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(P1A065)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL THETA ALPHA MACH  
○ 180.000 63.130 3.480  
□ 202.500  
◇ 225.000

PARAMETRIC VALUES  
BETA .000 OFFSET .000  
MOUNT 2.000 PHI

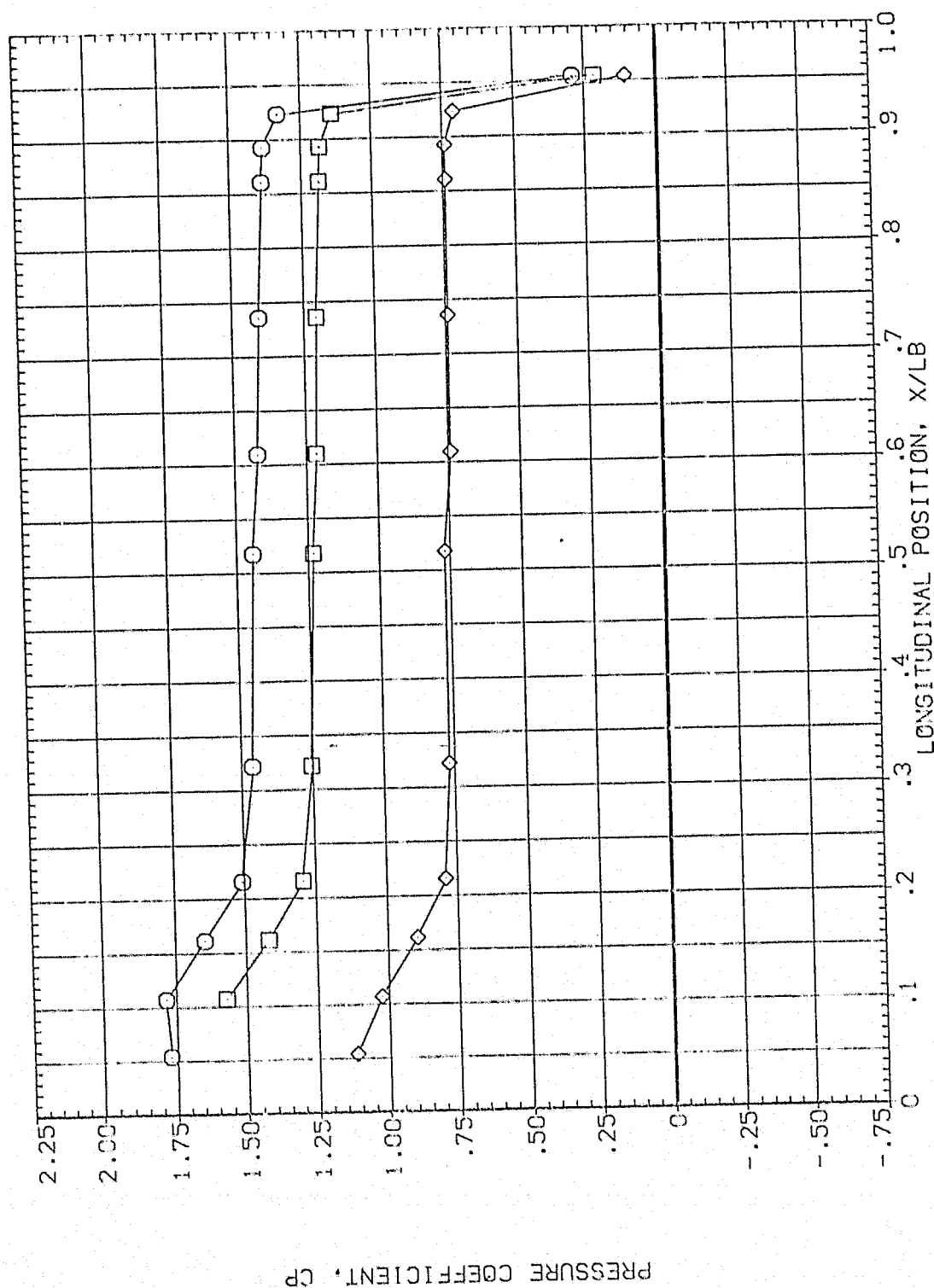


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(P1A065)

SYMBOL

THETA  
247.500  
270.000  
292.500

ALPHA  
63.130

1400 3.480

BETA  
MOUNT

PARAMETRI  
2.000  
.000

VALUES  
GFFSET  
PHI

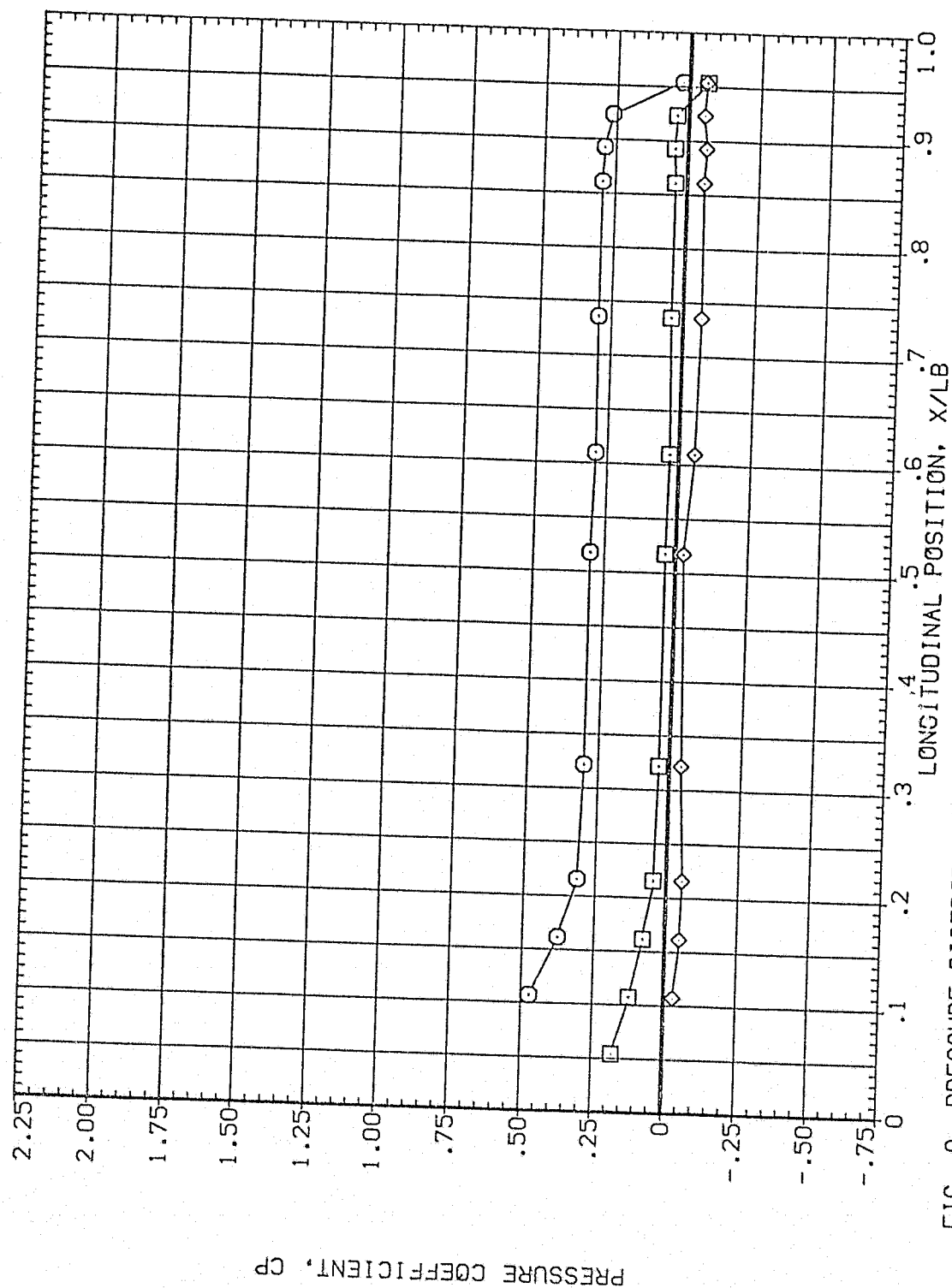
000.  
000.

PHI  
GFFSET

PHI  
GFFSET

PHI  
GFFSET

000.  
000.



LONGITUDINAL POSITION. X/LB

FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	315.000	63.130	3.480	BETA	OFFSET	PHI	60.000			
○	326.000			MOUNT			2.000			.000
◇	346.000									

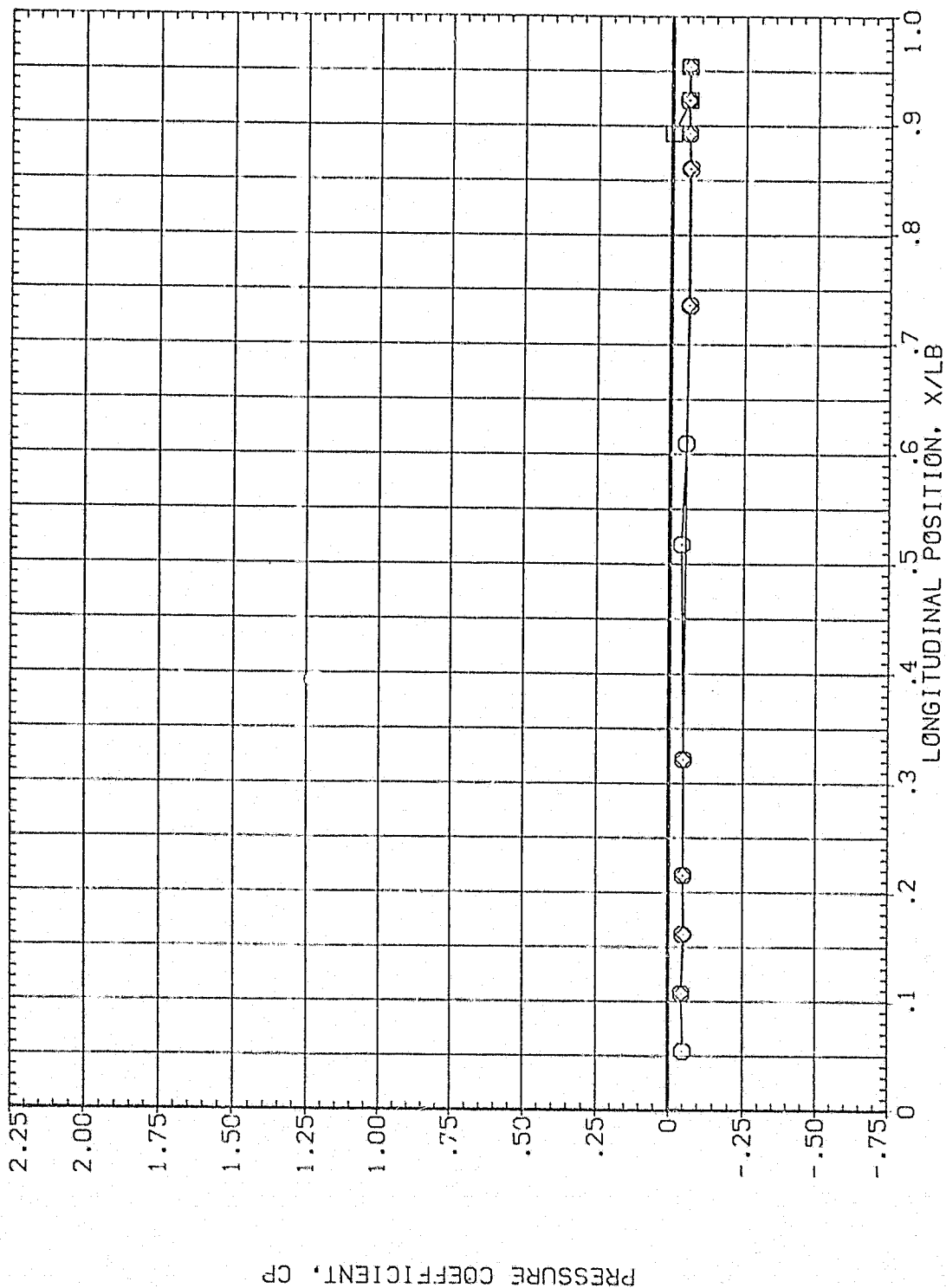


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
○	.300	66.130	3.480	MGUNT	PHI	.000
□	14.000					
◇	24.000					

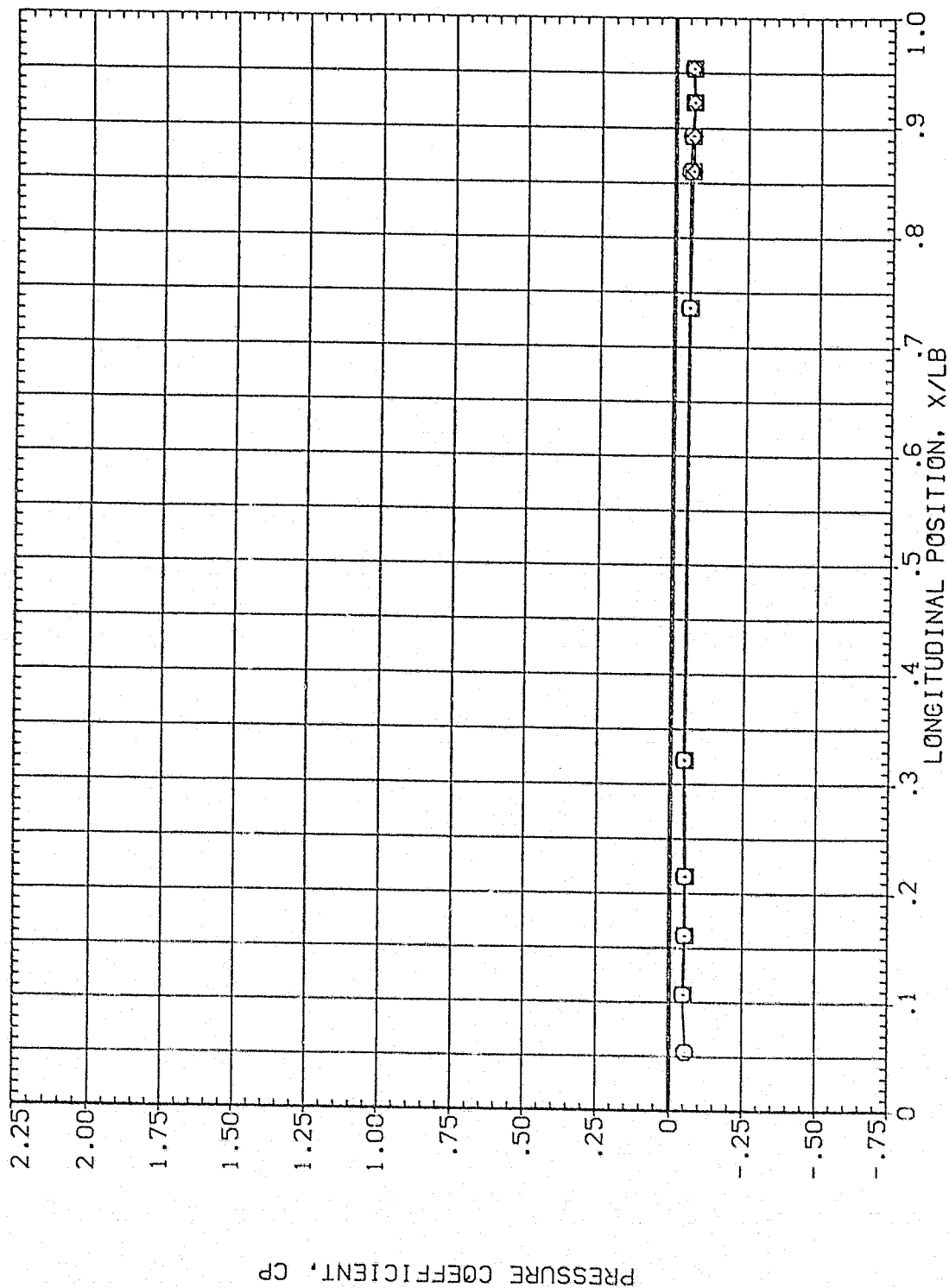


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

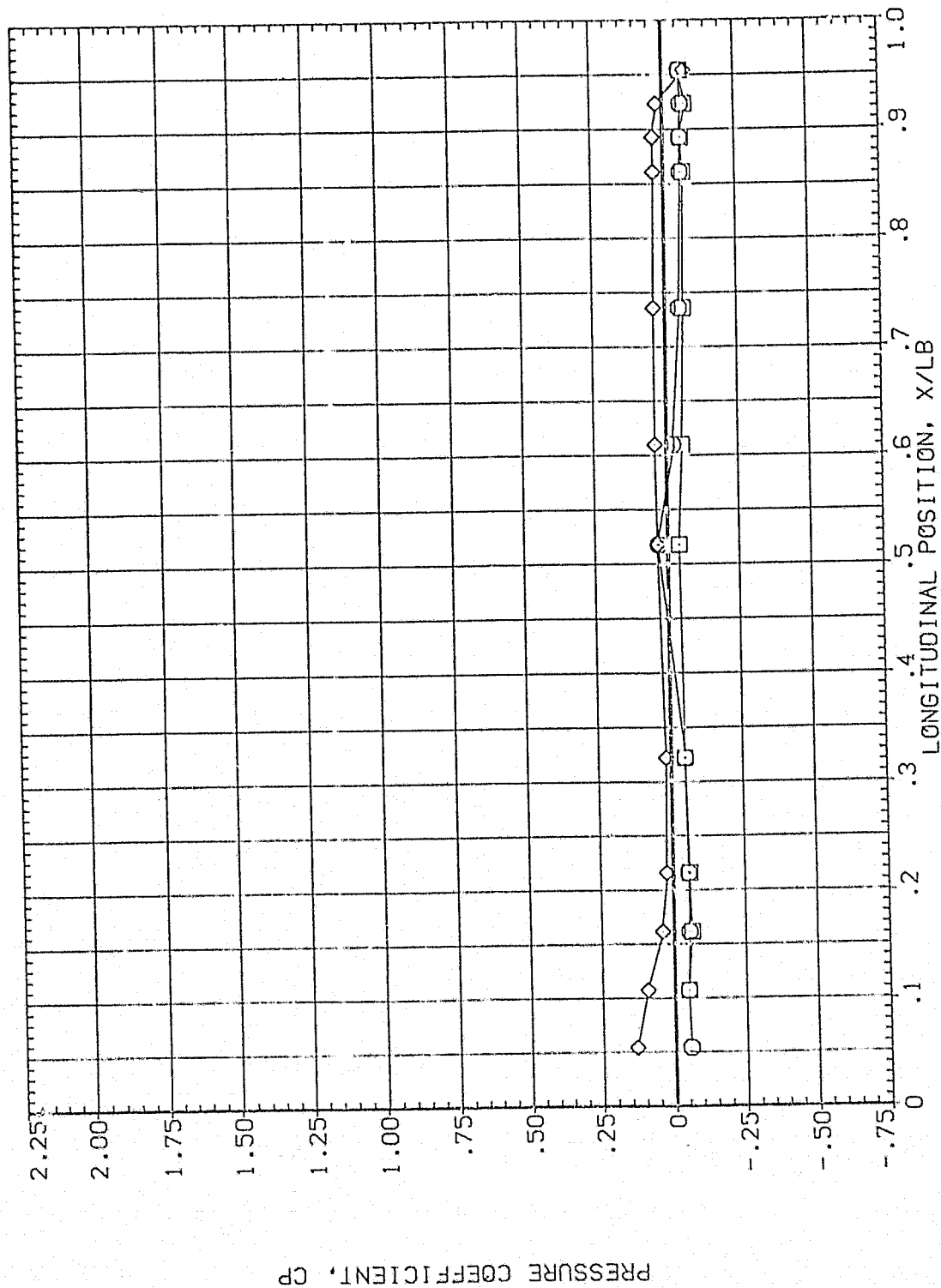
SYMBOL  
○  
□  
◇THETA  
45.000  
67.500  
90.000  
ALPHA  
66.130  
MACH  
3.480PARAMETRIC VALUES  
BETA  
MOUNT  
.000  
2.000  
60.000  
OFFSET  
PHI  
.000

FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	112.500	66.130	3.480	BETA	OFFSET	60.000
□	135.000			MOUNT	PHI	.000
◇	157.500					

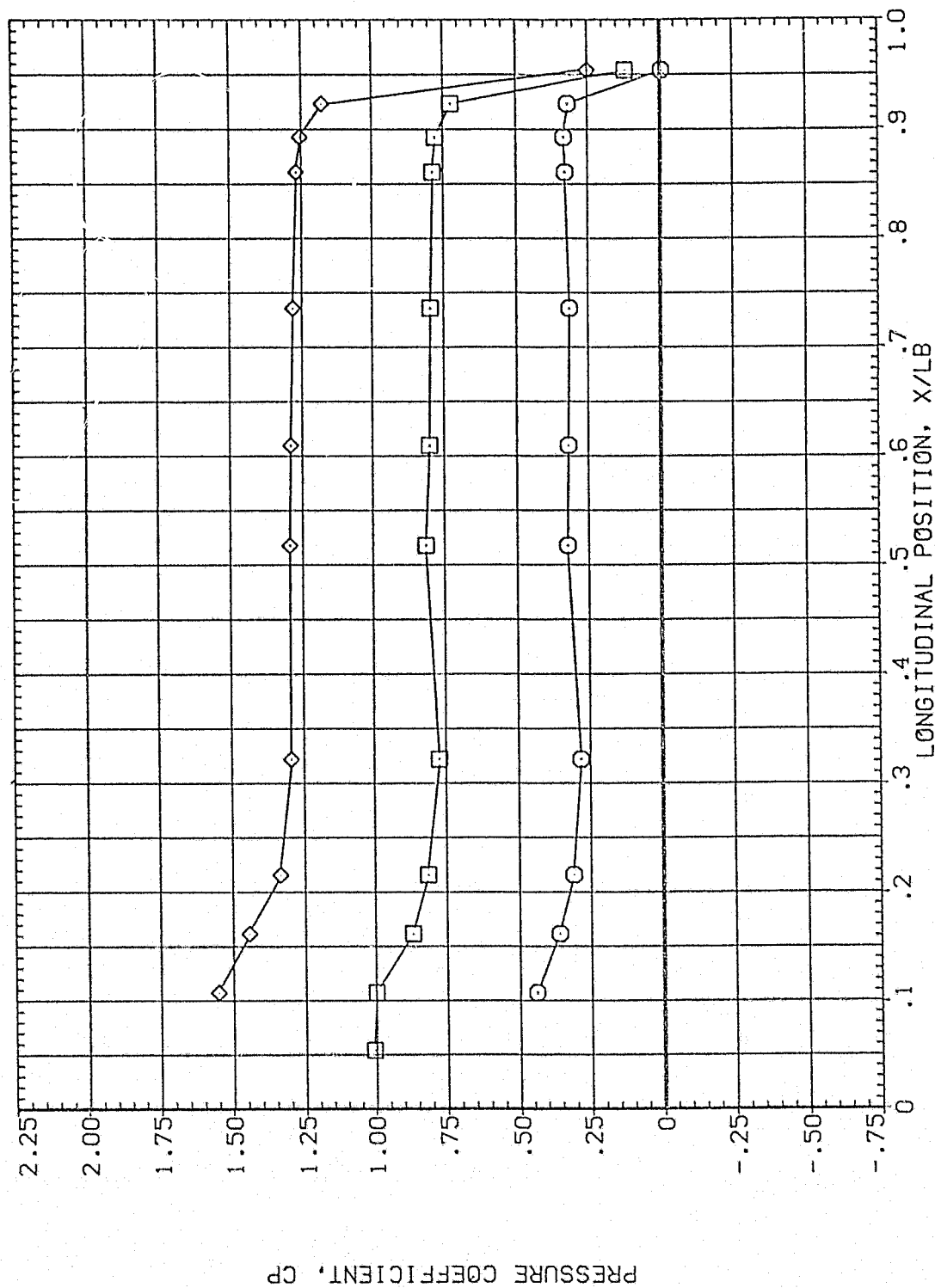


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	55.130	3.480	MOUNT	.000 OFFSET PHI
□	202.500				2.000
◇	225.000				60.000

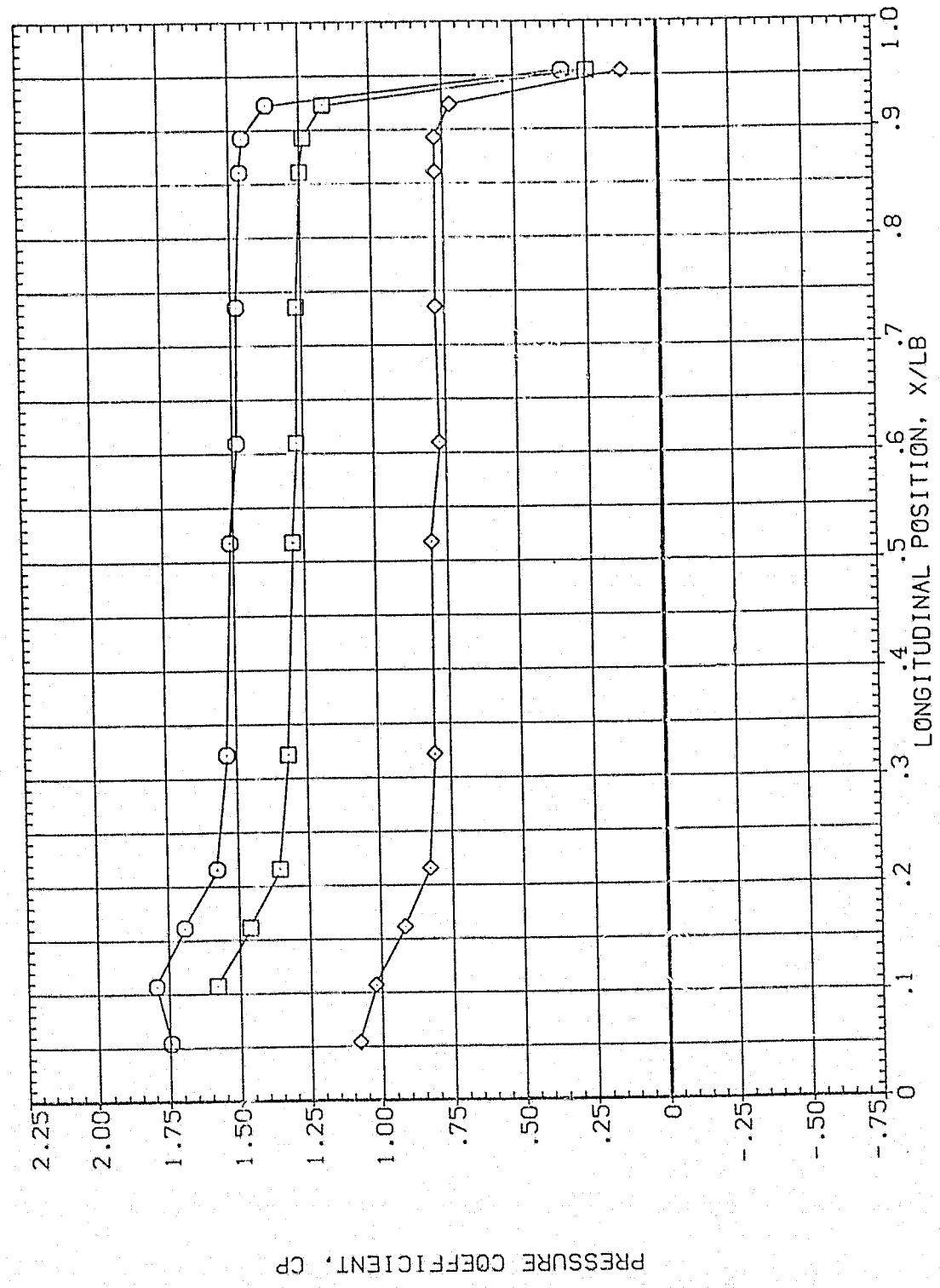


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	66.130	3.480	MOUNT	.000 OFFSET
□	270.000				2.000 PHI
◇	292.500				60.000

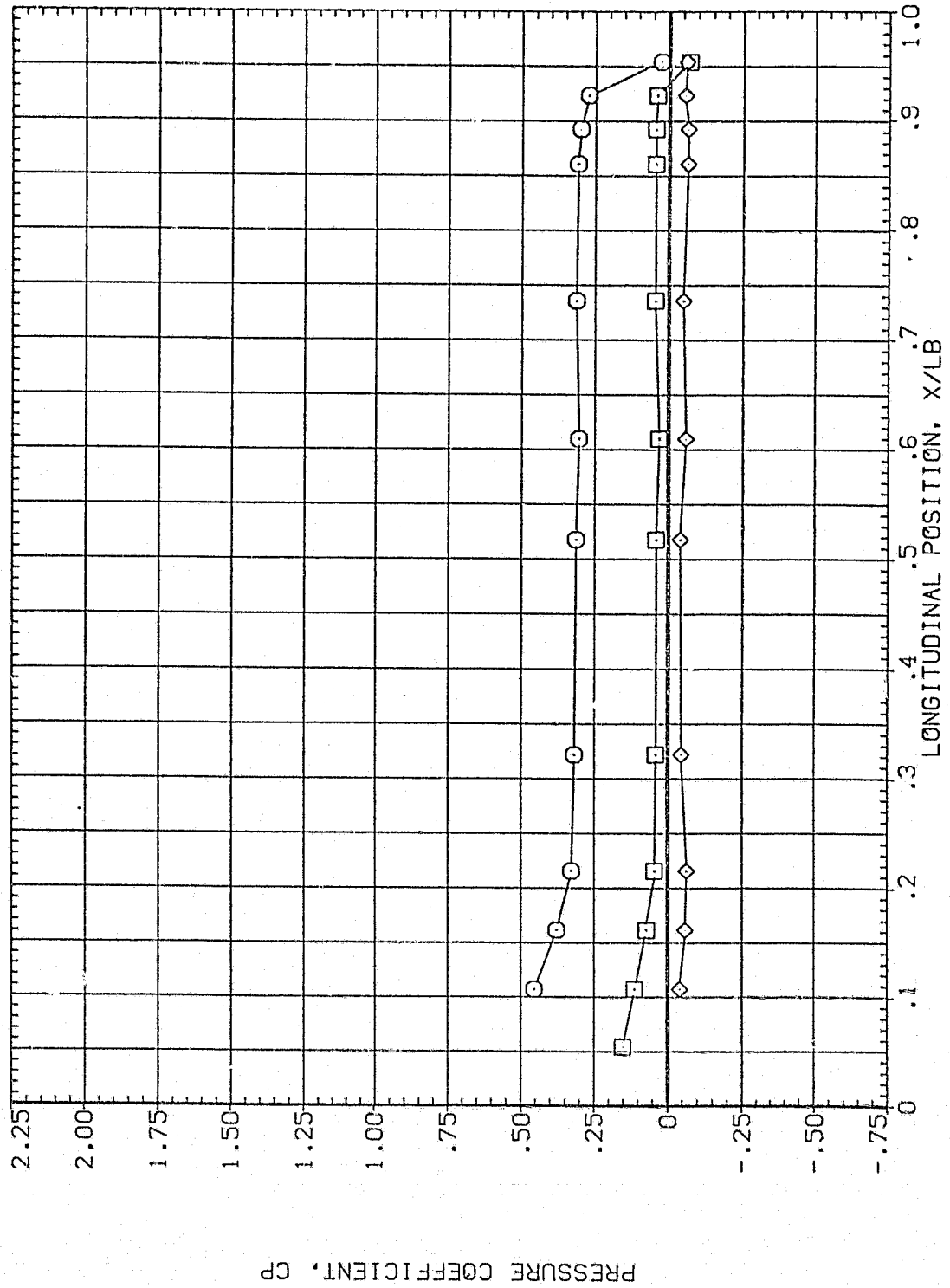


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES		
	315.000	326.000	66.130	66.130	3.480	3.480	BETA	OFFSET	PHI
○	315.000	326.000	66.130	66.130	3.480	3.480	MOUNT	2.000	50.000
◇	315.000	326.000	66.130	66.130	3.480	3.480			

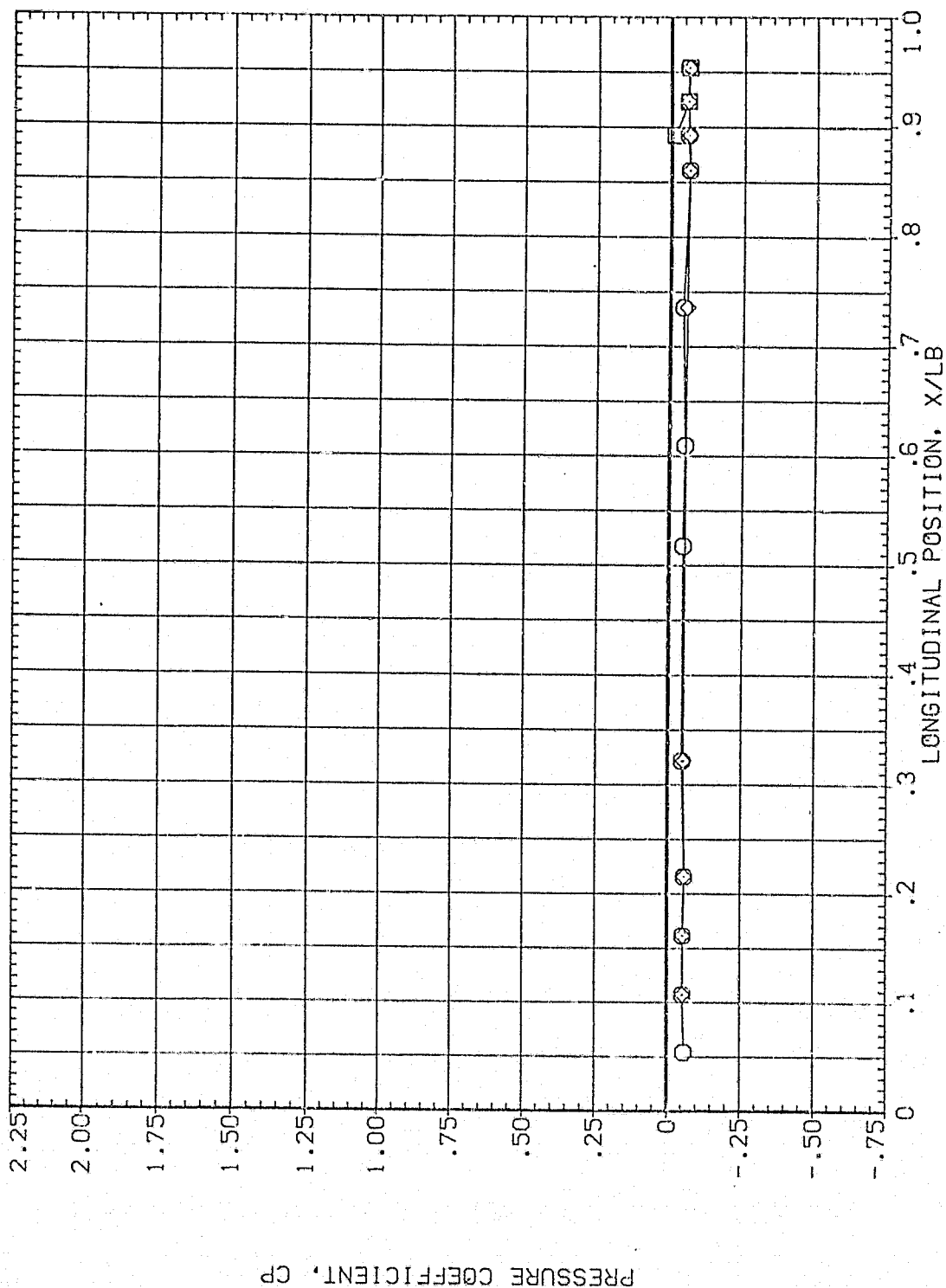


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



0-4

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA067)

SYMBOL

THETA  
.000  
14.000  
24.000

ALPHA  
69.130

MACH  
3.480

PARAMETRIC VALUES

BETA  
MOUNT

.000  
2.000

PHI

60.000  
.000

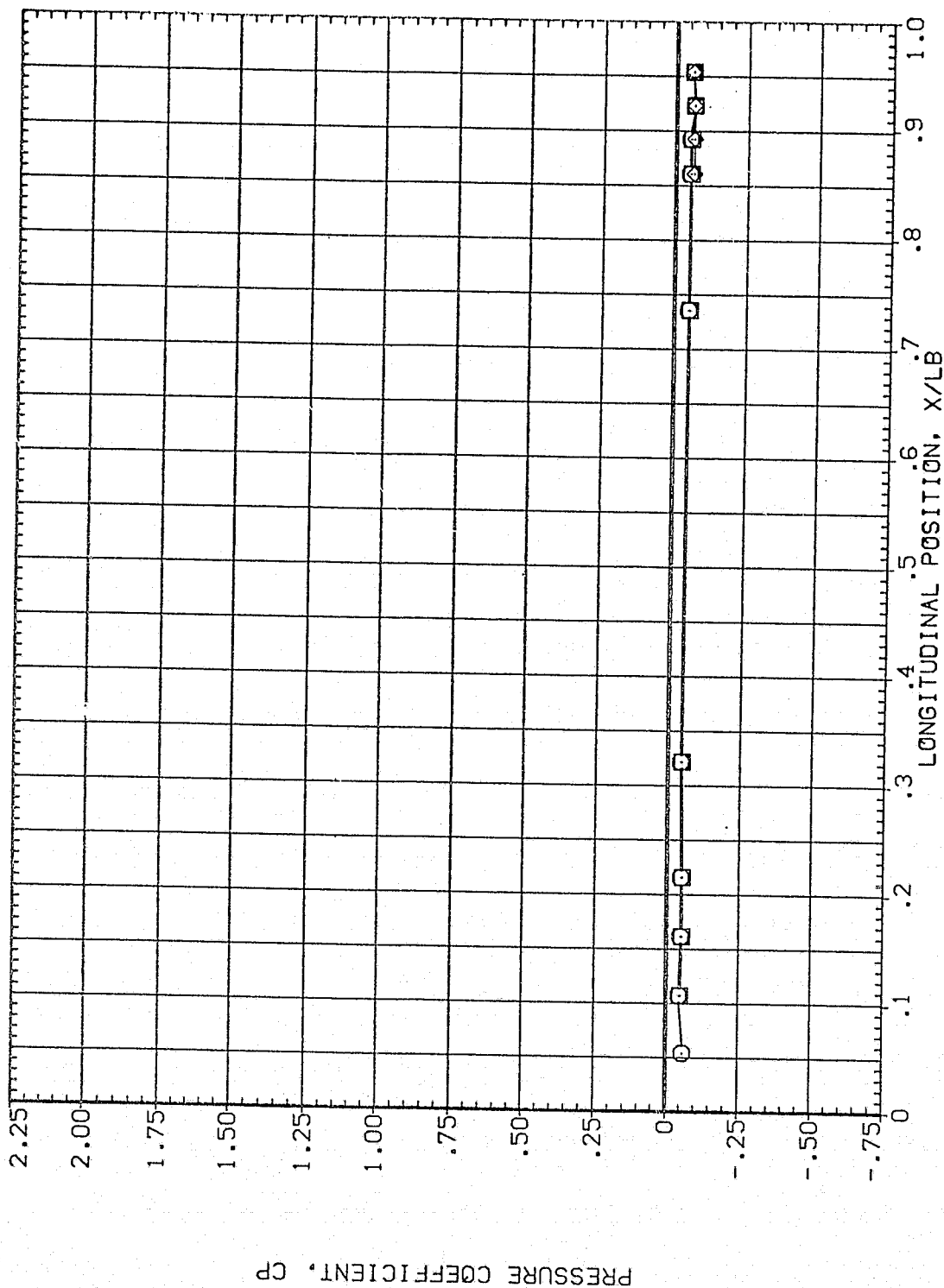


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 5' (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL THETA ALPHA MACH  
 O 45.000 69.130 3.480  
 □ 67.500  
 ◇ 90.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 60.000  
 .000

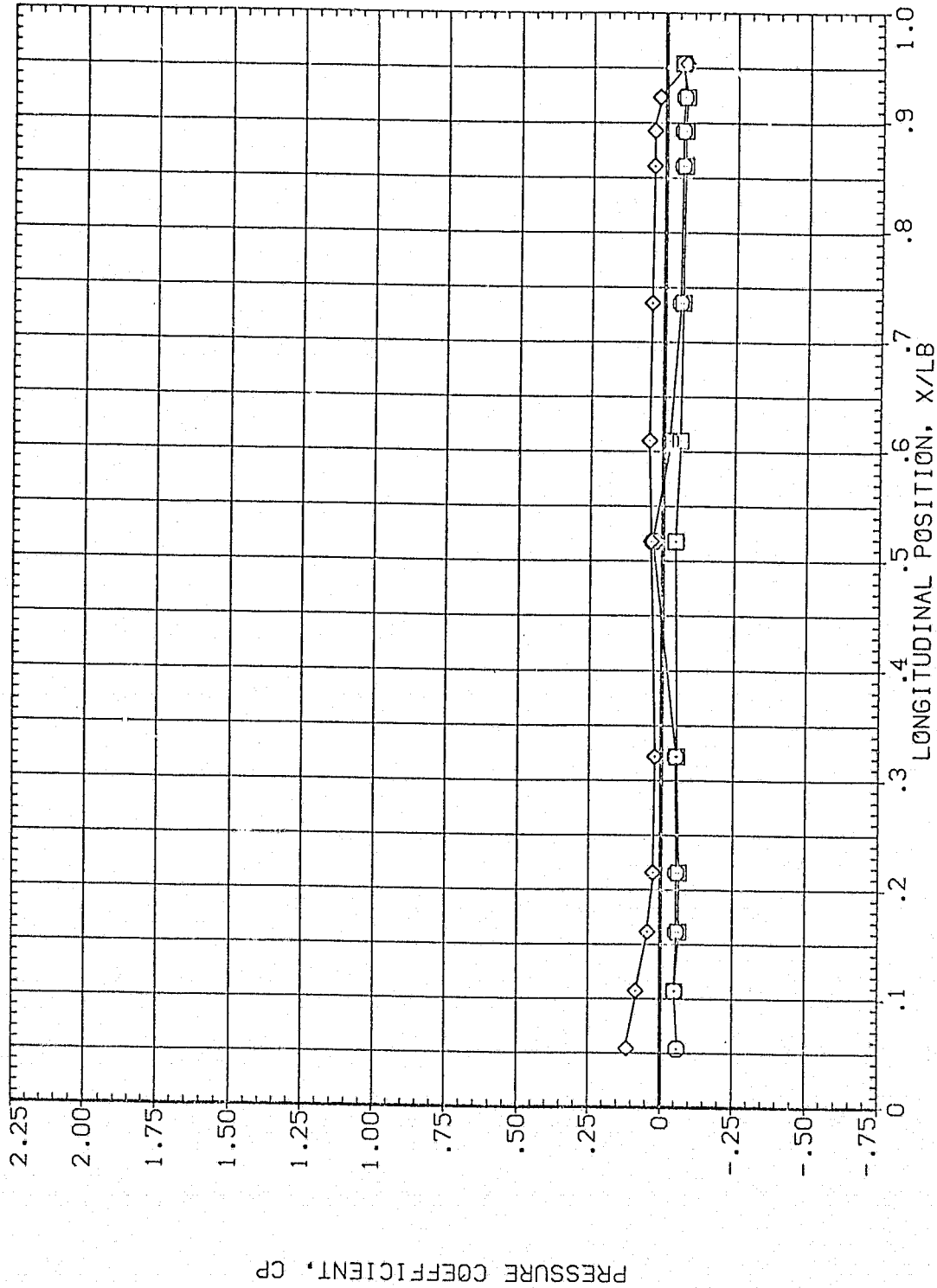


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



SYMBOL	PARAMETRIC VALUES		
	THETA	ALPHA	MACH
○	112.500	69.130	3.480
□	135.000		
◇	157.500		

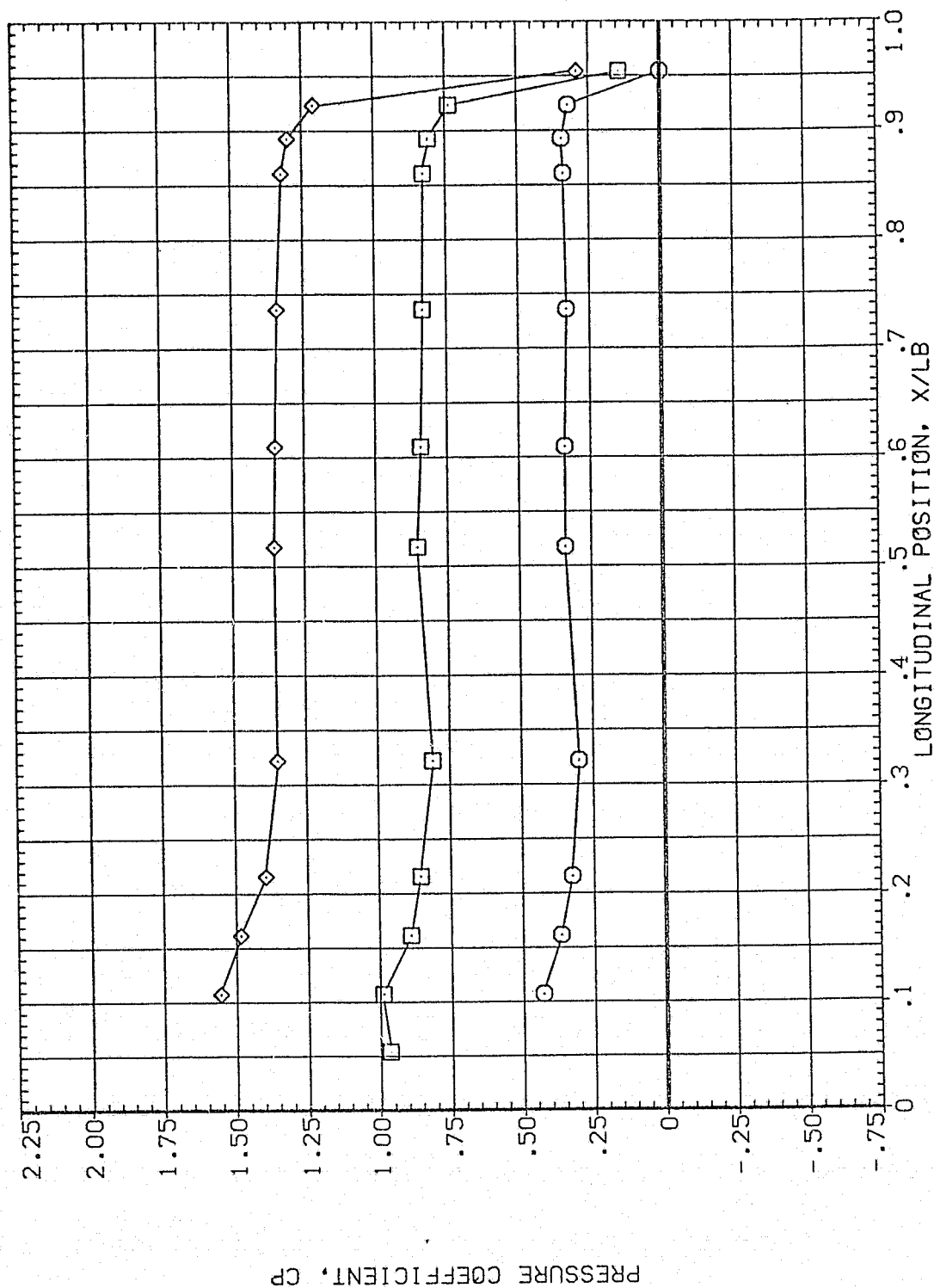


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	69.130	3.480	MOUNT	.000 OFFSET PHI
□	202.500				2.000 PHI
◇	225.000				60.000 .000

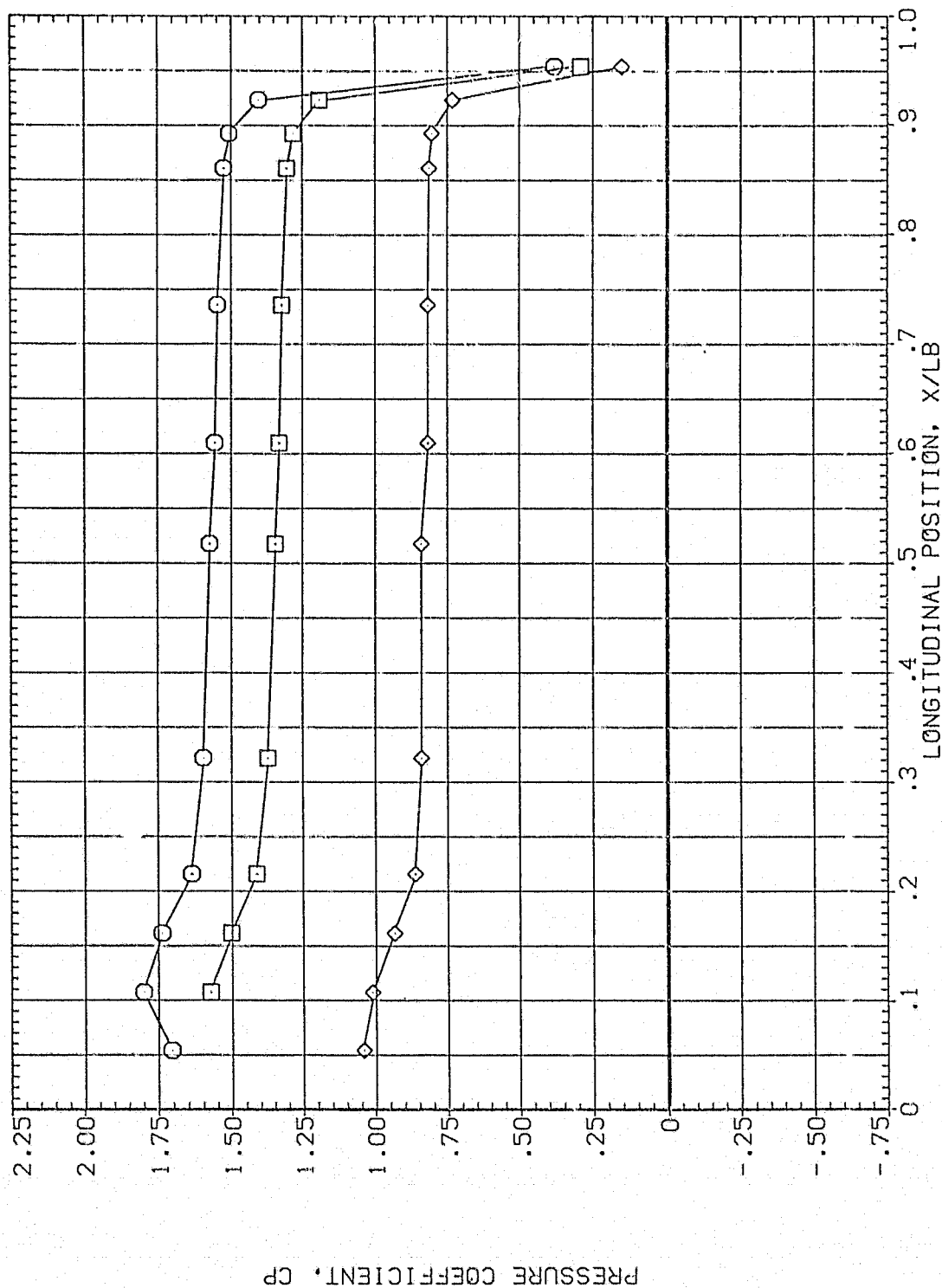


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	69.130	3.480	MOUNT	.000	.000
□	270.000				2.000	
◇	292.500					.000

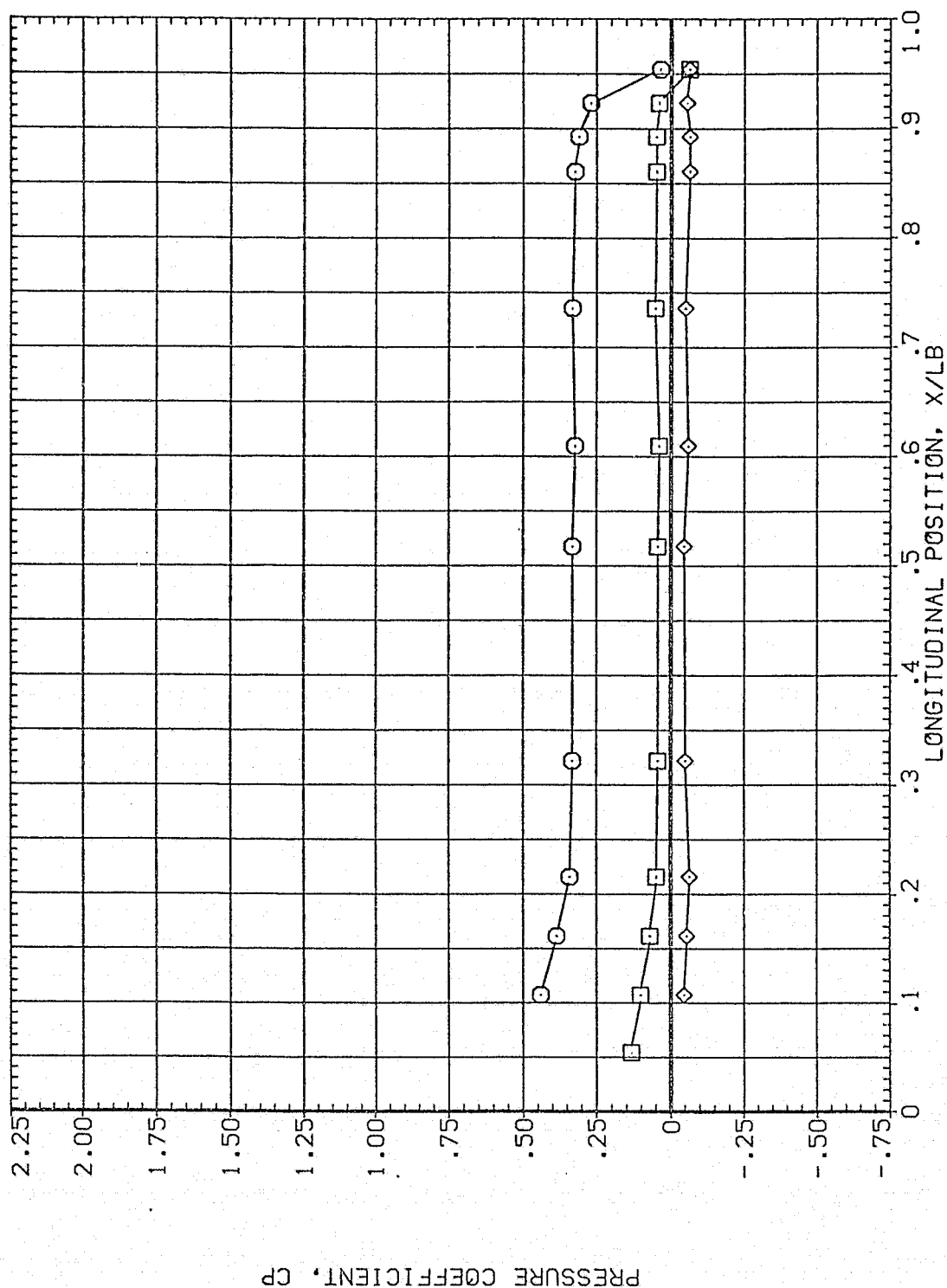


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	69.130	3.480	MOUNT	.000 OFFSET
□	326.000				2.000 PHI
◇	346.000				60.000

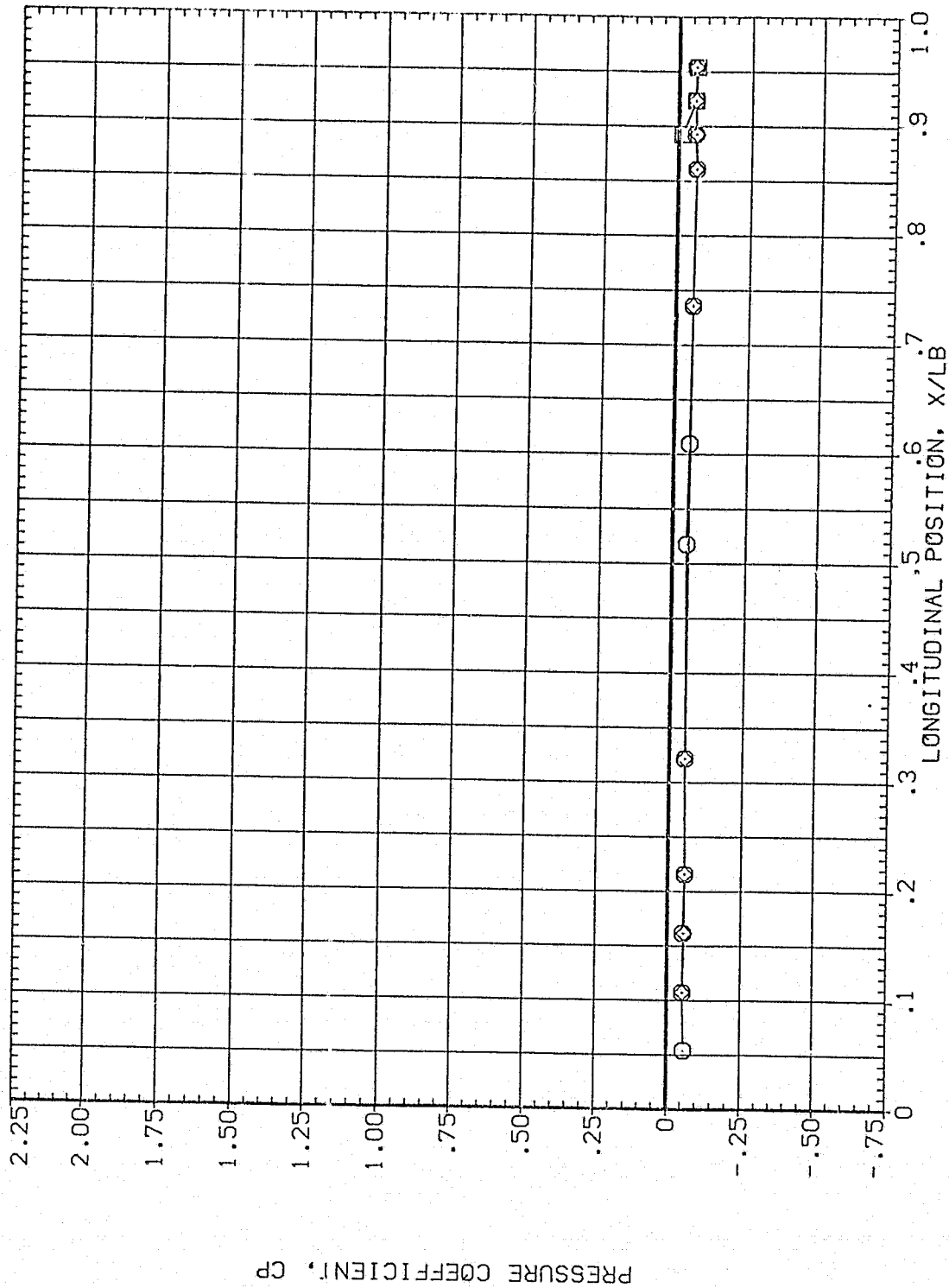


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	PARAMETRIC VALUES		
	THETA	ALPHA	MACH
○	.000	69.980	3.480
□	14.000		
◇	24.000		
		BETA	80.000
		MOUNT	.000
		OFFSET	PHI
		2.000	

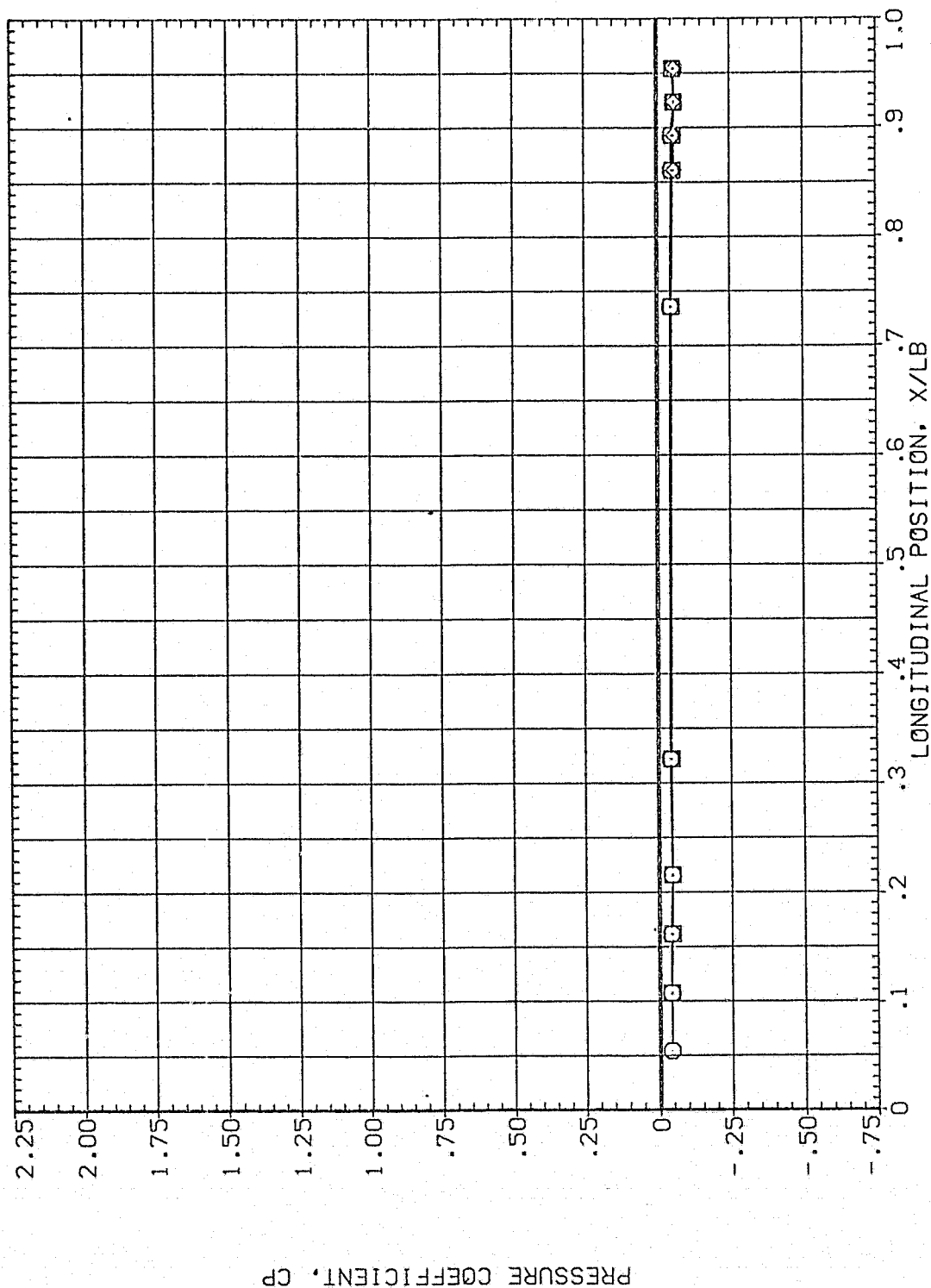


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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ORIGINAL PAGE IS POOR

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	THETA	ALPHA	MACH
○	45.000	69.980	3.480
□	67.500		
◇	90.000		

PARAMETRIC VALUES		
BETA	.000	OFFSET
MOUNT	2.000	PHI
		90.000
		.000

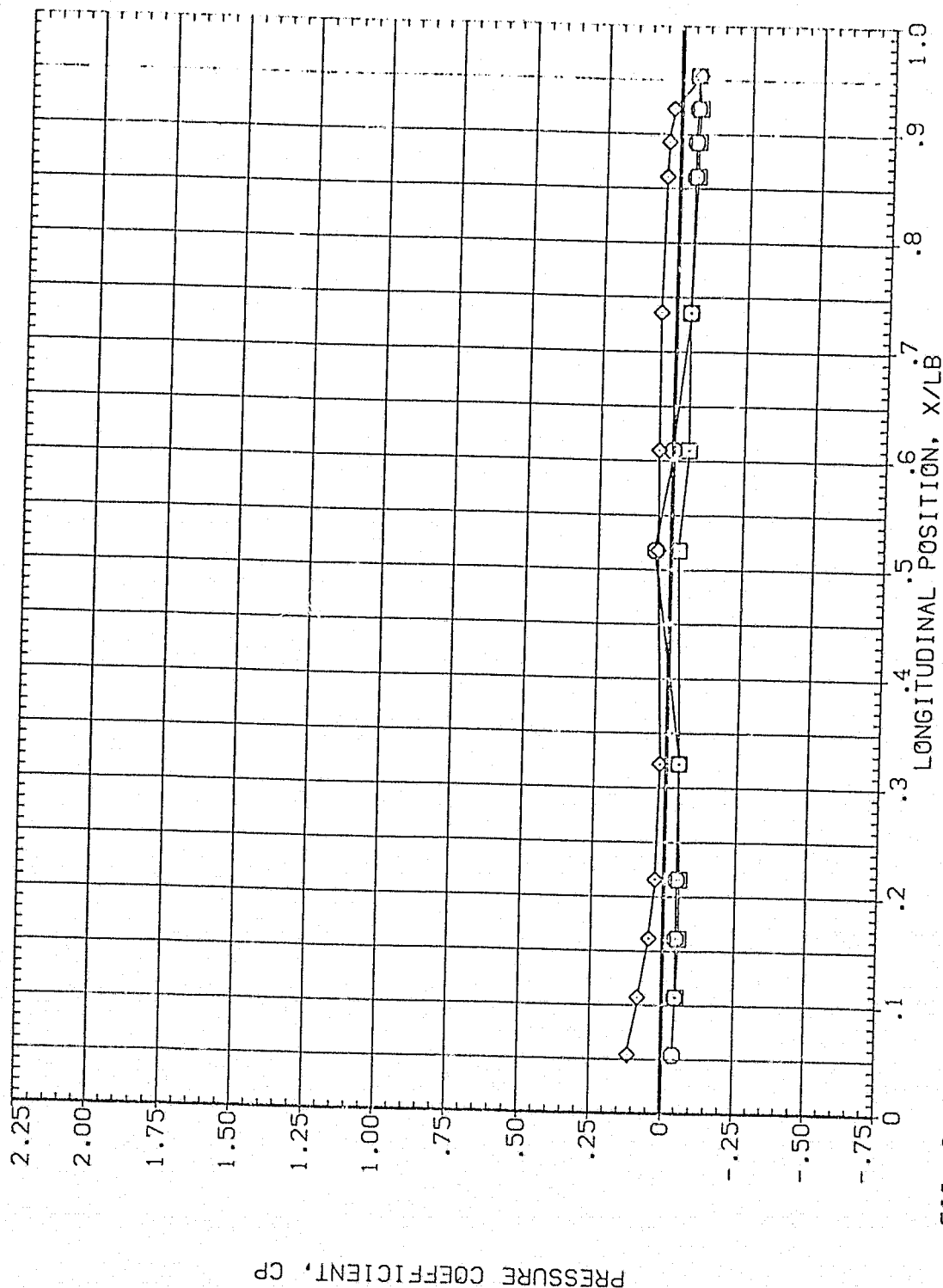


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	80.000
○	112.500	69.980	3.480	MOUNT	PHI	.000
□	135.000					
◇	157.500					

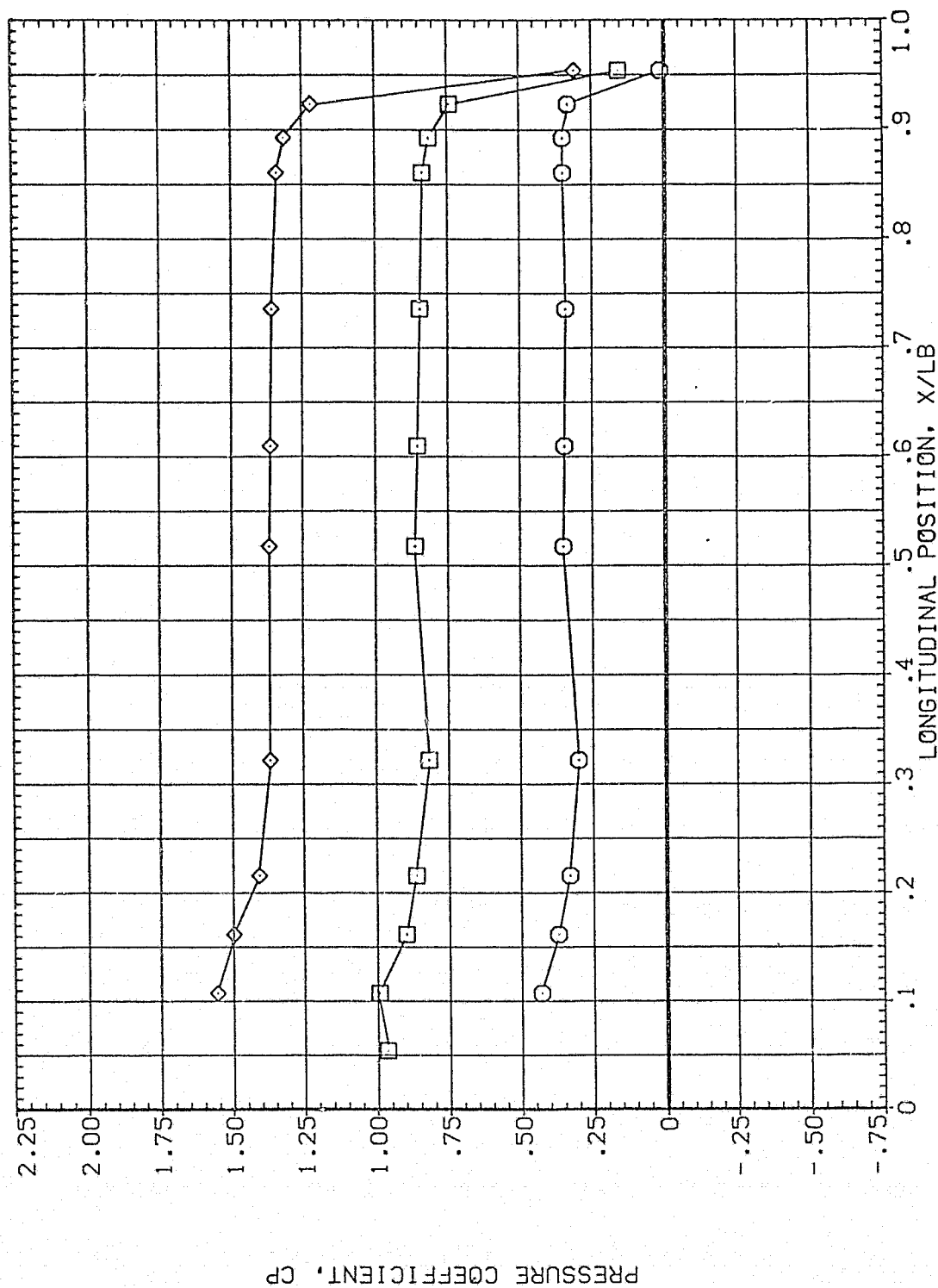


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	59.980	3.480	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				80.000 .000

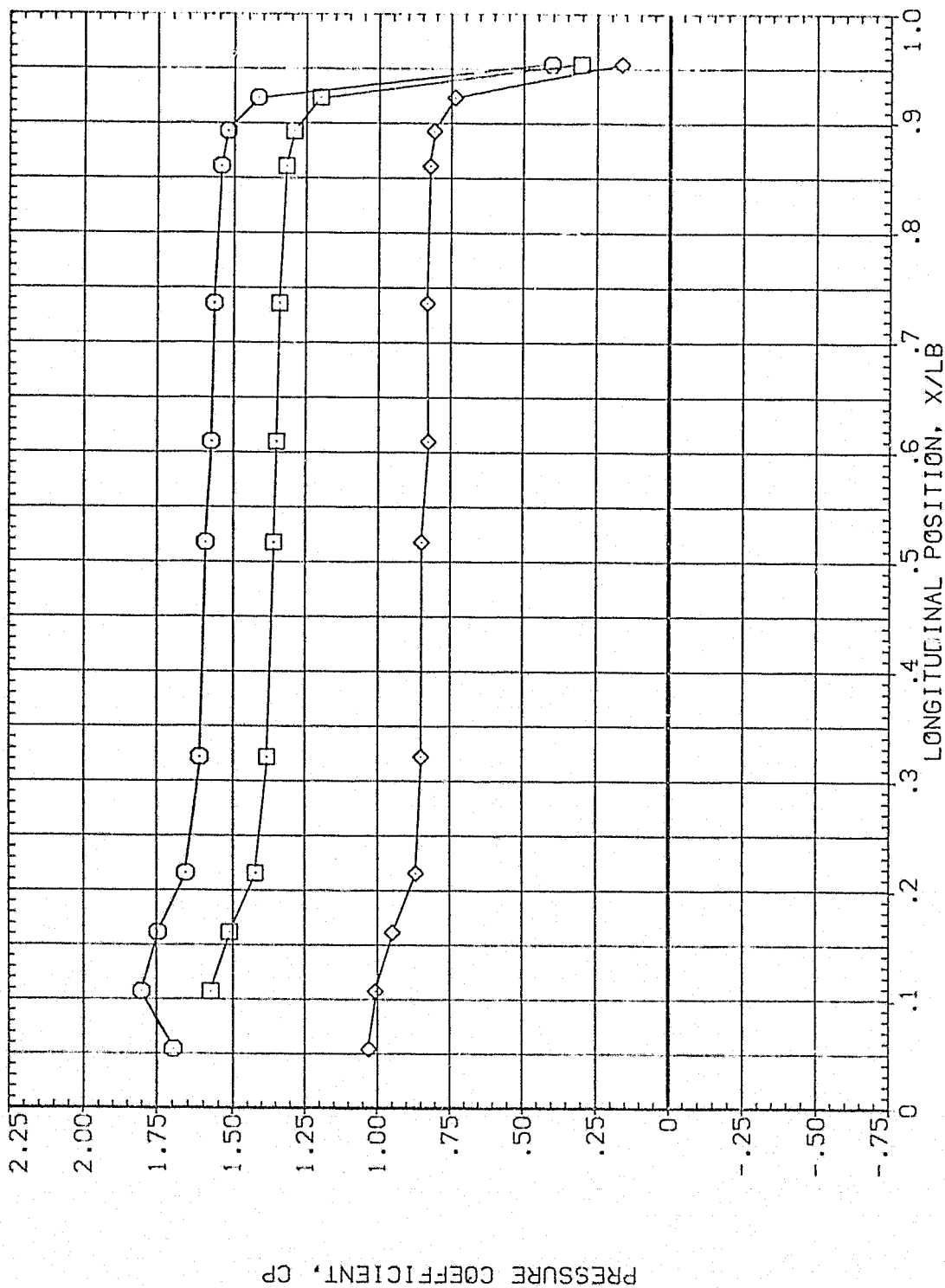


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	69.980	3.480	.000	.000	.000
□	270.000			2.000		
◇	292.500					

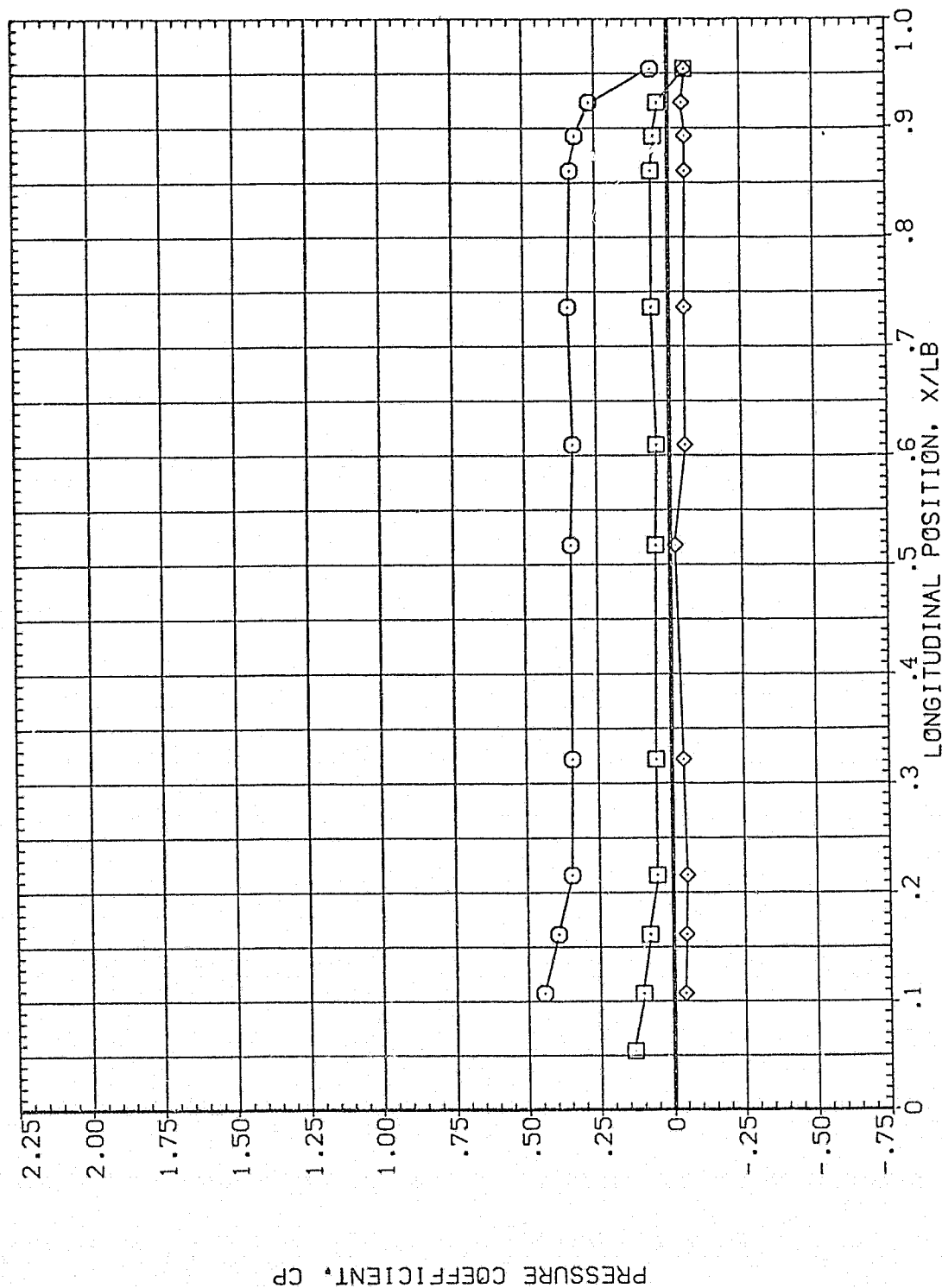


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL THETA ALPHA MACH  
 O 315.000 69.980 3.480  
 □ 326.000  
 ◇ 346.000

PARAMETRIC VALUES  
 .000 .000 80.000  
 BETA OFFSET  
 MOUNT PHI .000

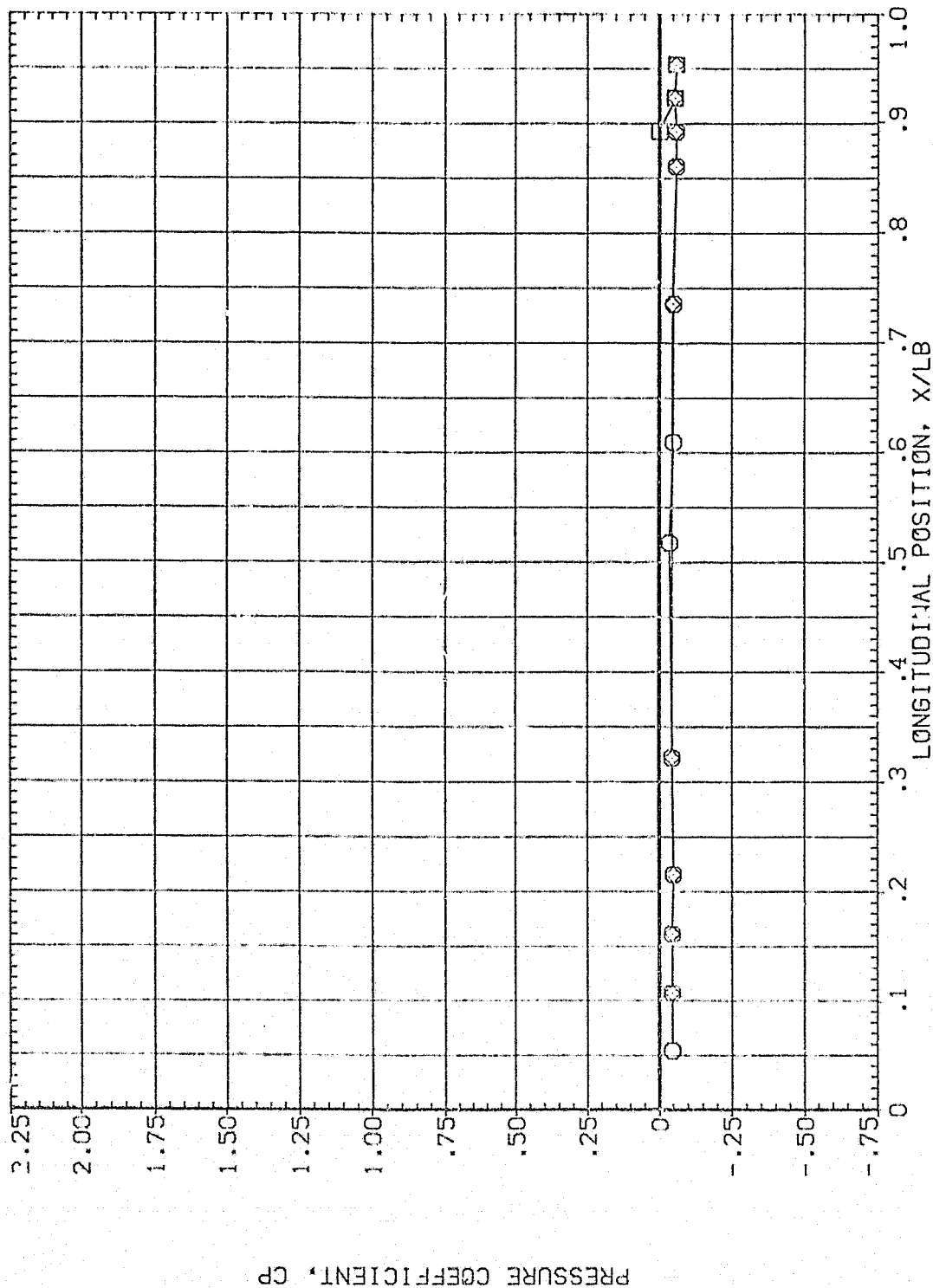


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBOL  
 ○ □ ◇

THETA .000  
 ALPHA 71.880  
 MACH 3.480

BETA .000  
 MOUNT 2.000  
 PHI 80.000  
 .000

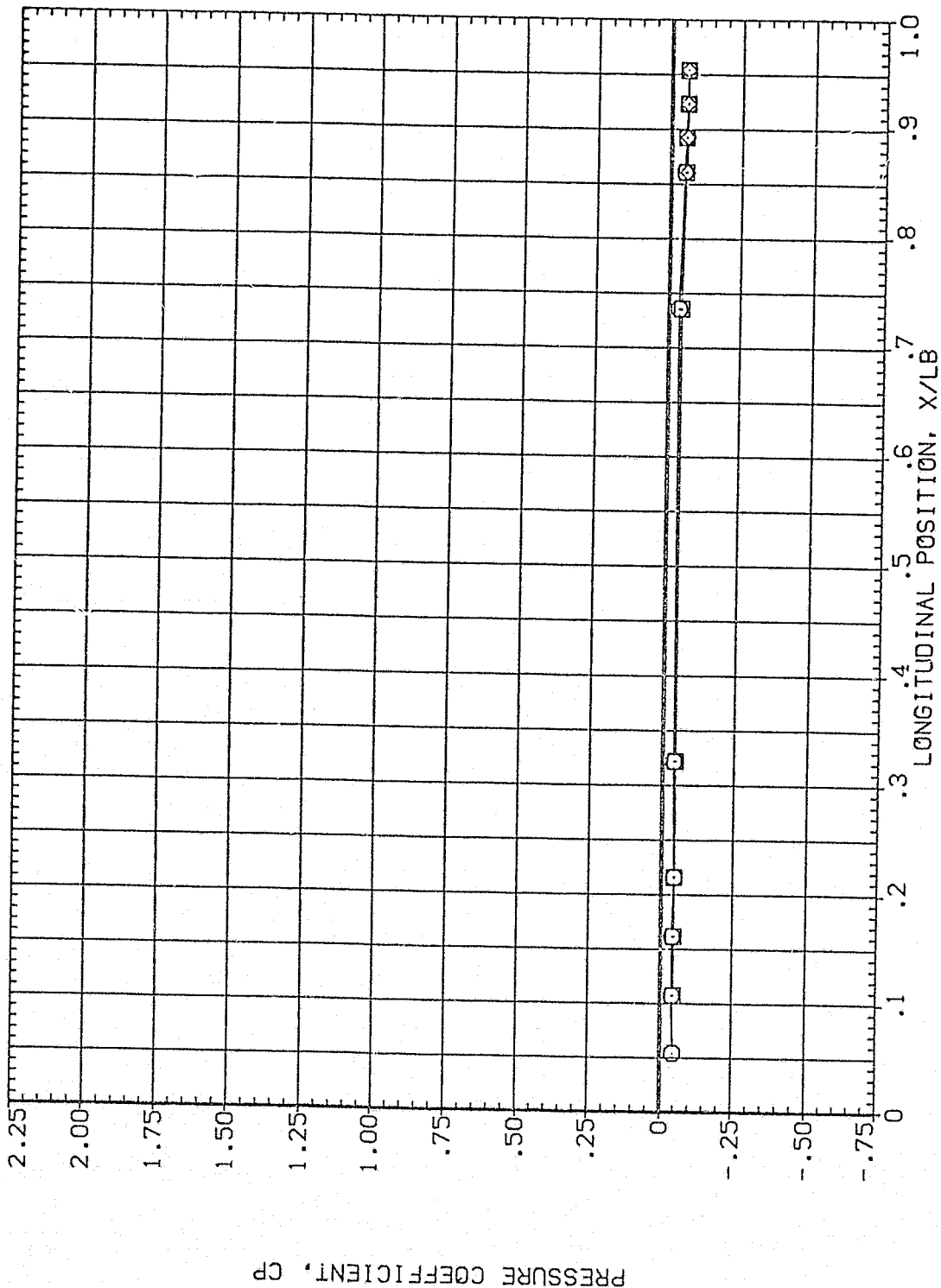


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
○	45.000	71.880	3.480	BETA	.000	OFFSET
□	67.500			MOUNT	2.000	PHI
◇	90.000					80.000
						.000

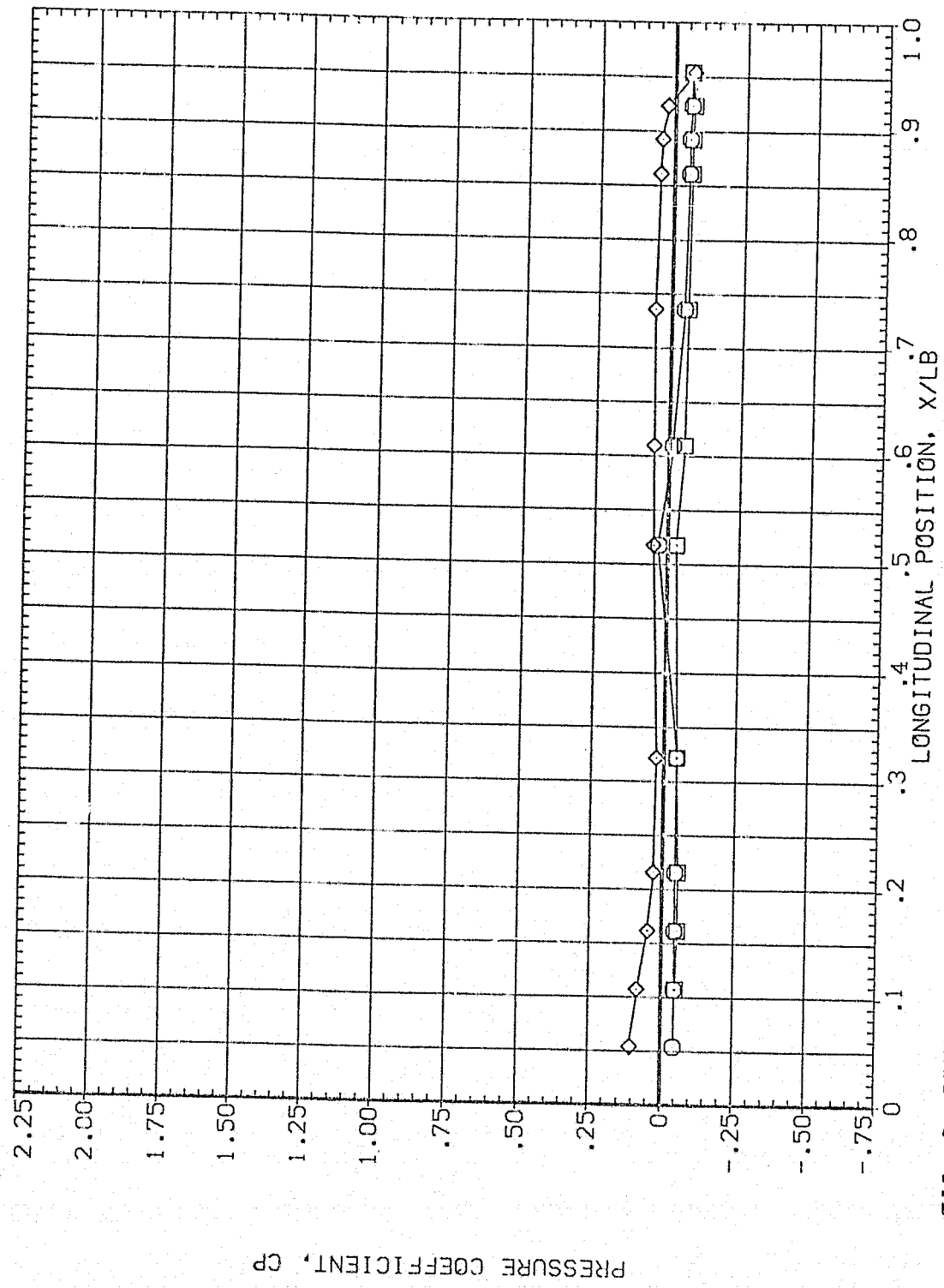


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBOL	THETA		ALPHA		MACH		BETA		PARAMETRIC VALUES	
	112.500	135.000	71.880	71.880	3.480	3.480	MOUNT	.000	OFFSET	80.000
◇	157.500							2.000	PHI	.000

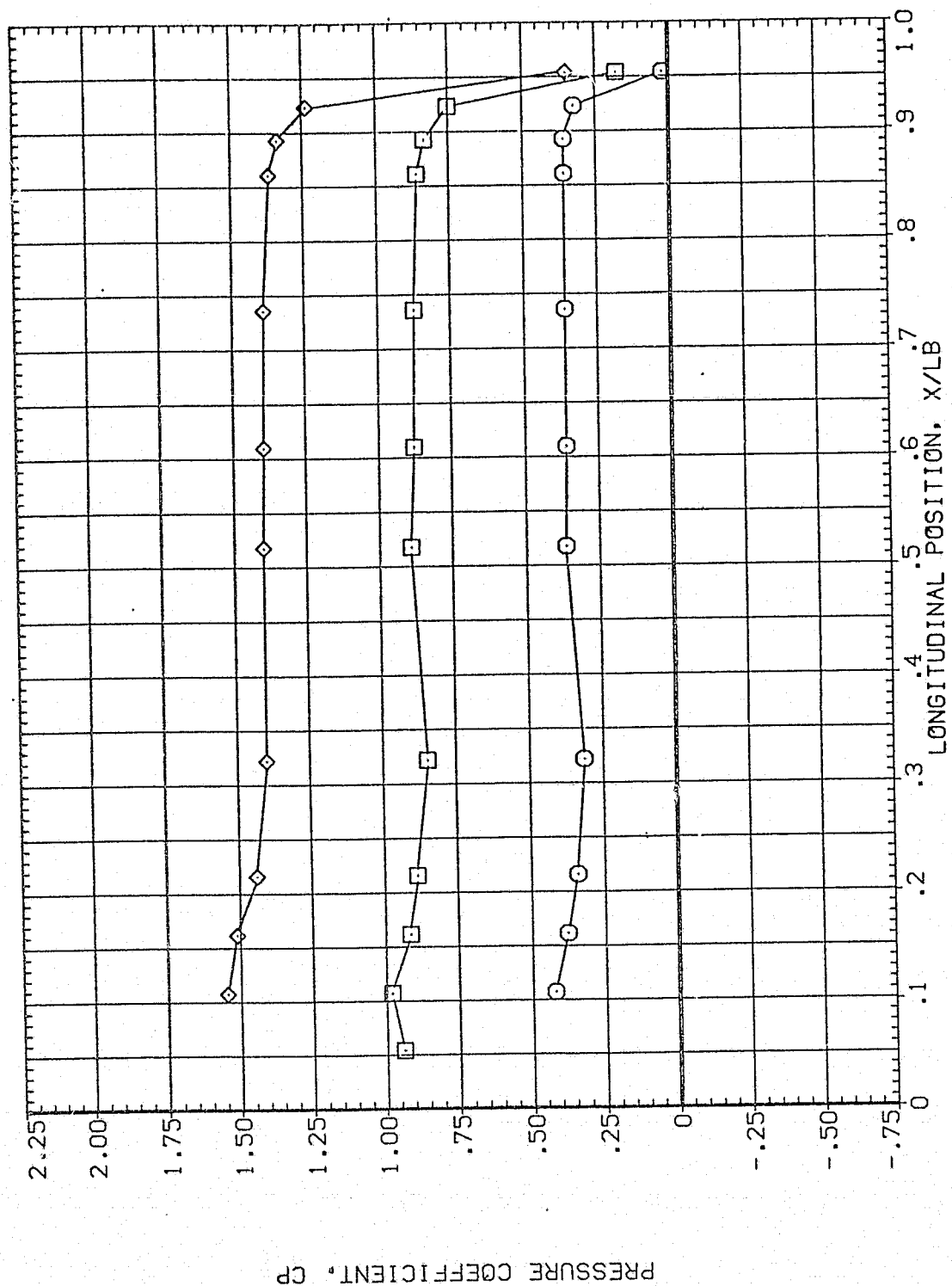


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	71.880	3.480	OUNT	.000 OFFSET 80.000
□	202.500				2.000 PHI .000
◇	225.000				

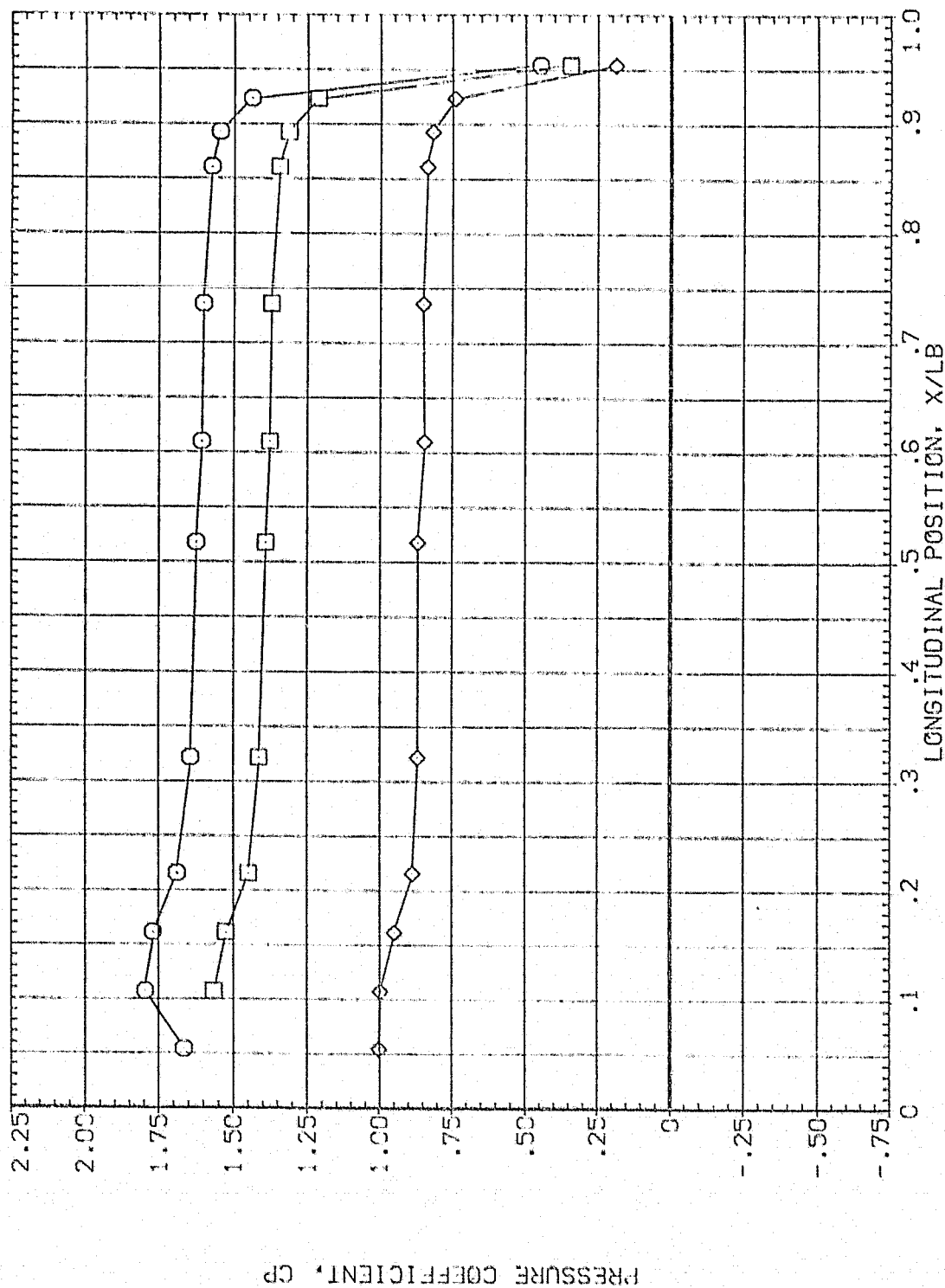


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	71.880	3.480	.000	.000	.000
□	279.000			2.000		
◇	292.500					

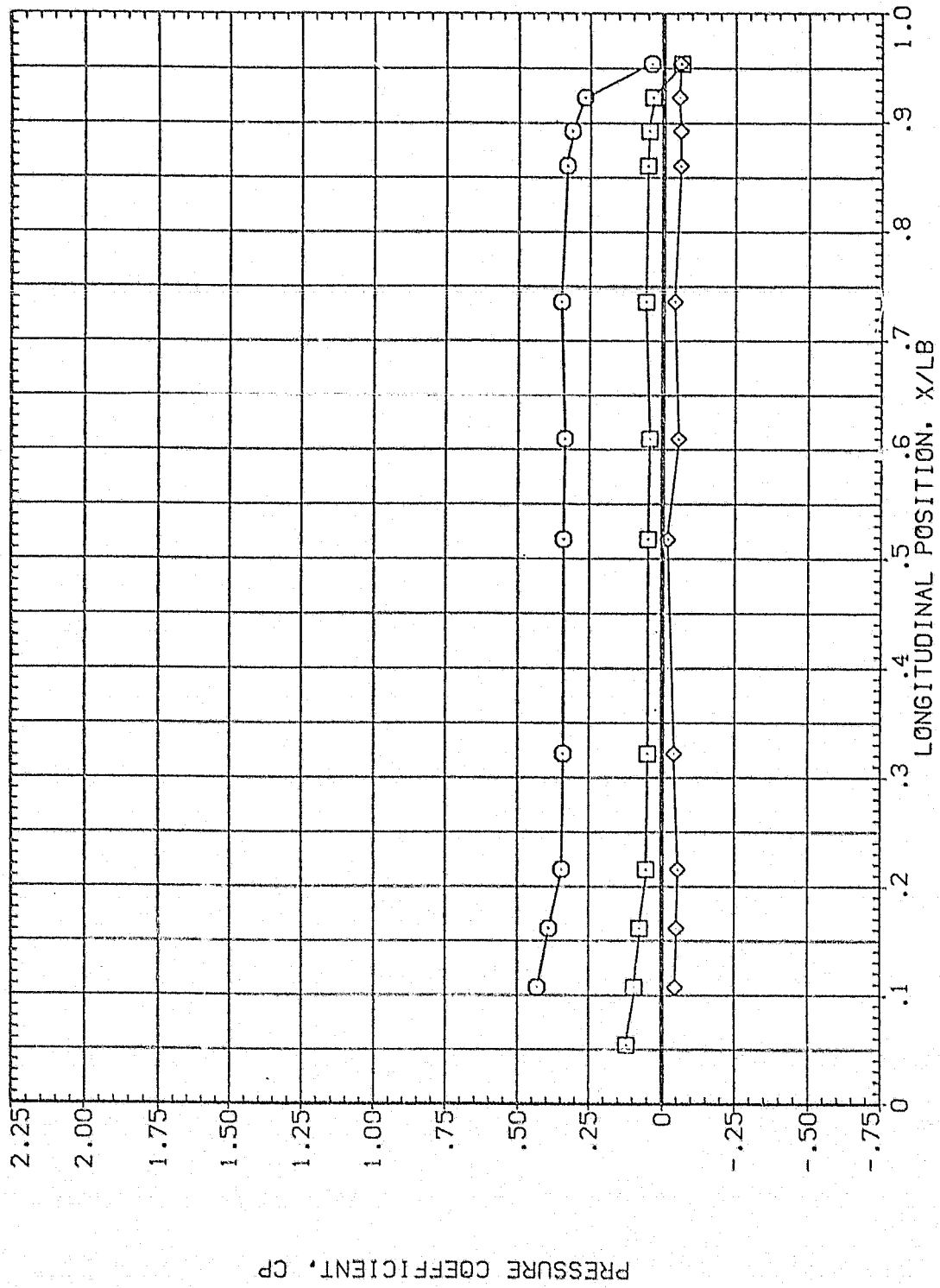


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T2 (P1A069)

PARAMETRIC VALUES  
 .000 OFFSET  
 2.000 PHI  
 80.000

BETA  
 MOUNT

MACH  
 3.480

ALPHA  
 71.880

Y-ETA  
 315.000  
 325.000  
 345.000

SW201  
 110

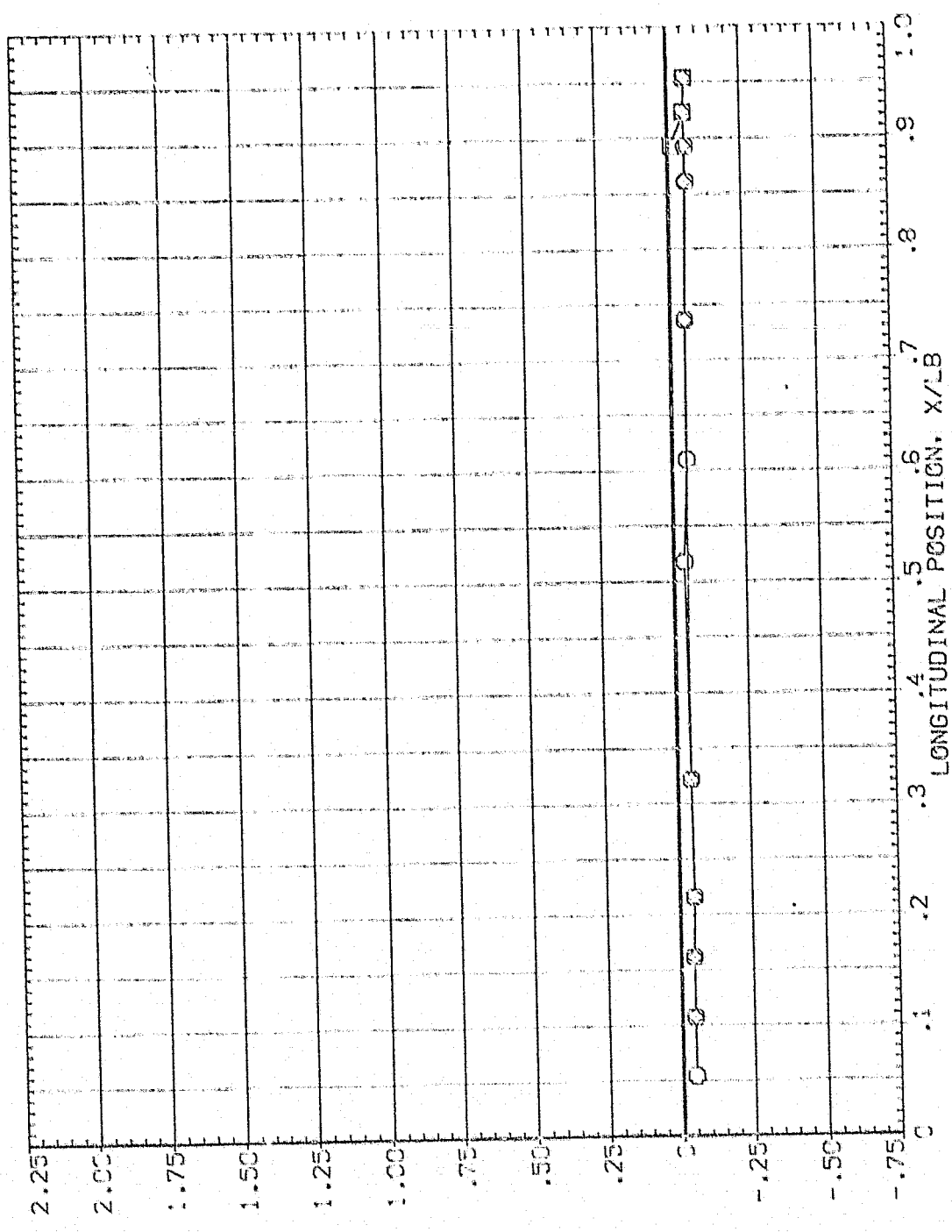


FIG. 8 PRESSURE DISTRIBUTION OVER ET - 12 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.000	74.860	3.480	MOUNT	.000 OFFSET
□	14.000				2.000 PHI
◇	24.000				80.000

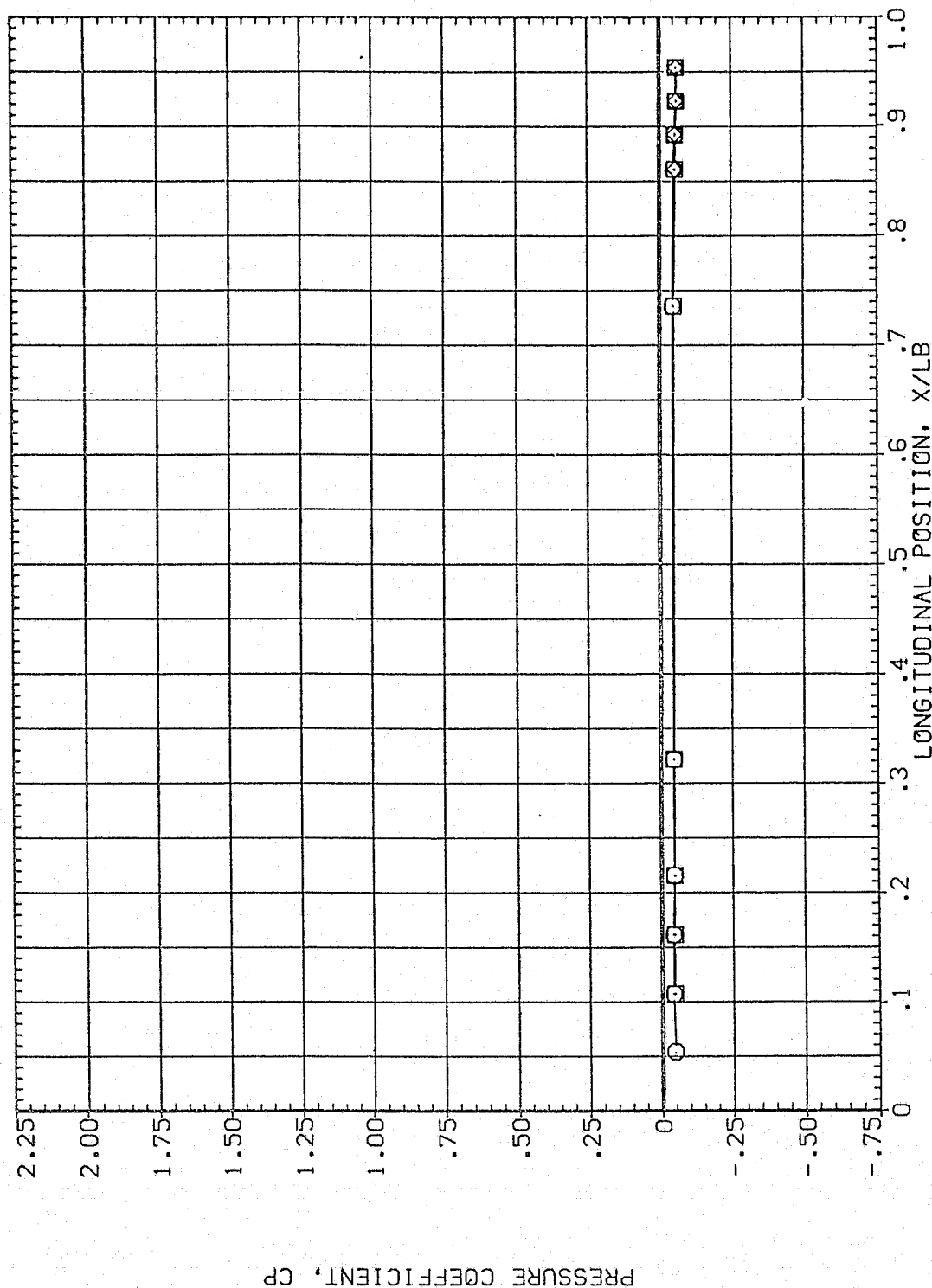


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL

THETA

ALPHA

MACH

45.000

74.860

3.480

45.000

67.500

90.000

PARAMETRIC VALUES

BETA

OFFSET

PHI

.000

2.000

.000

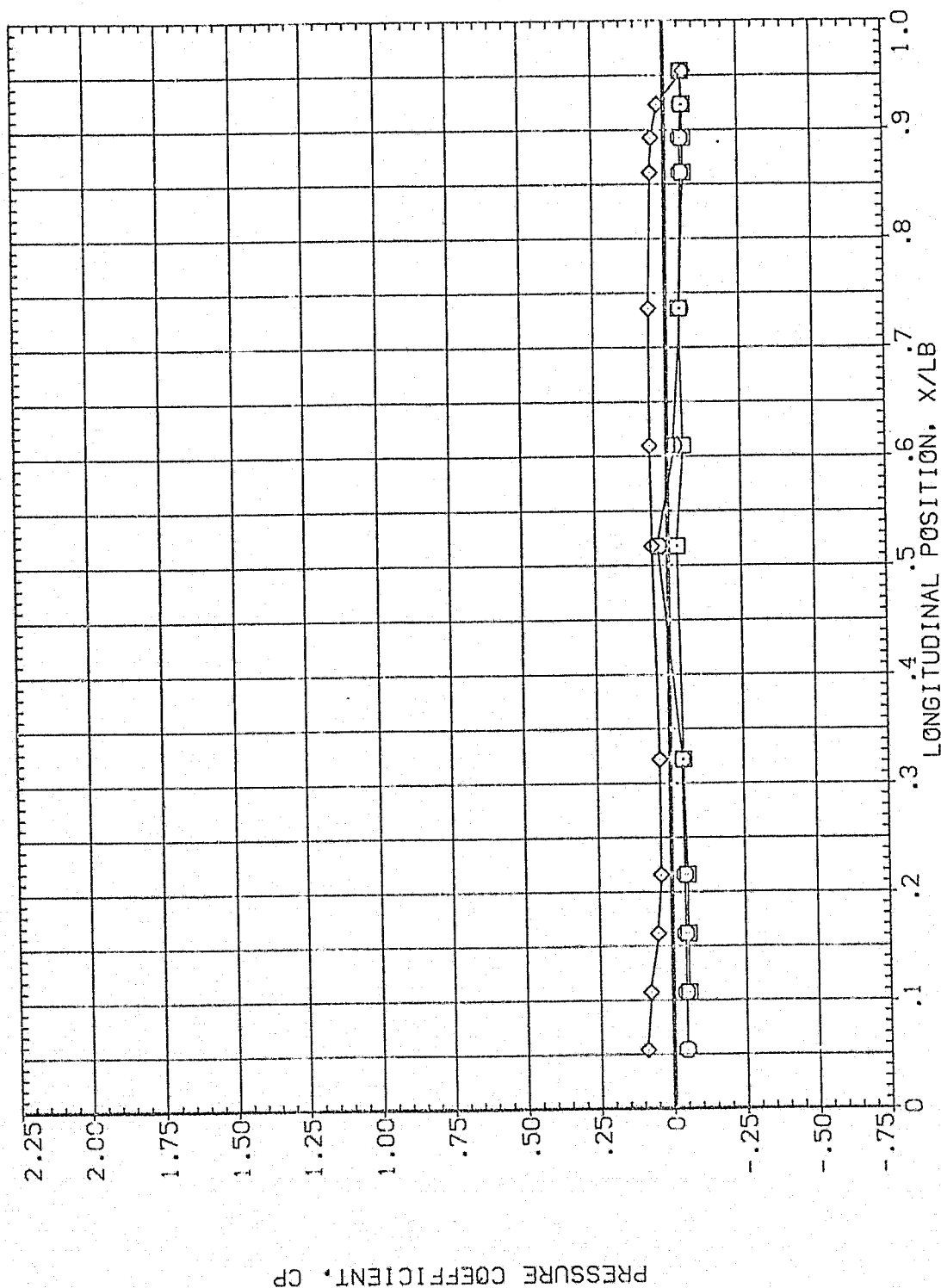


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (1A-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	112.500	135.000	74.860	74.860	3.480	3.480	BETA	.000	OFFSET	80.000
○	135.000	157.500					MOUNT	2.000	PHI	.000
□										
◇										

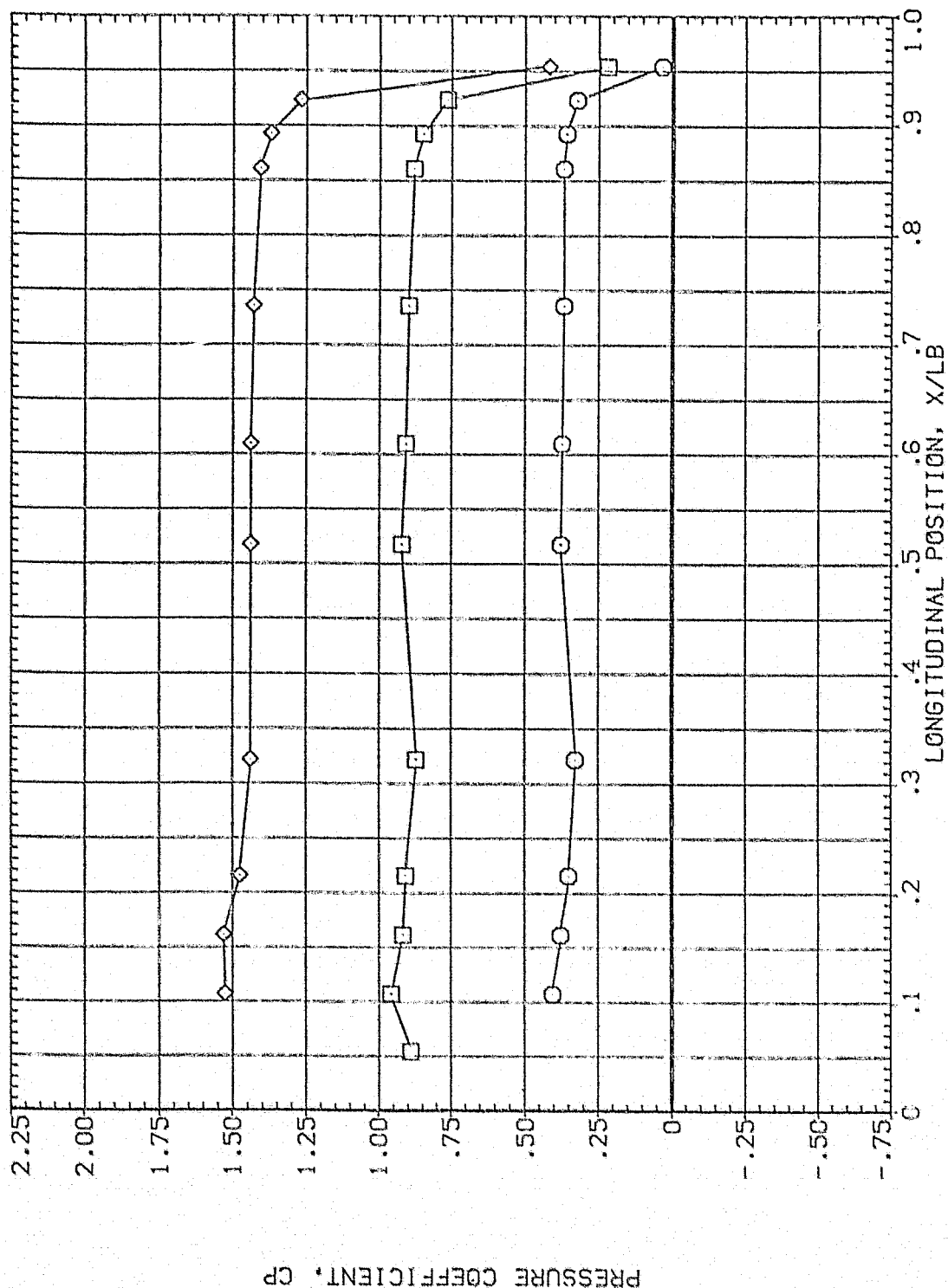


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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SYMBOL

THETA

ALPHA

MACH

3.480

74.860

180.000

202.500

225.000

BETA

MOUNT

PARAMETRIC VALUES

.000

2.000

OFFSET

PHI

80.000

.000

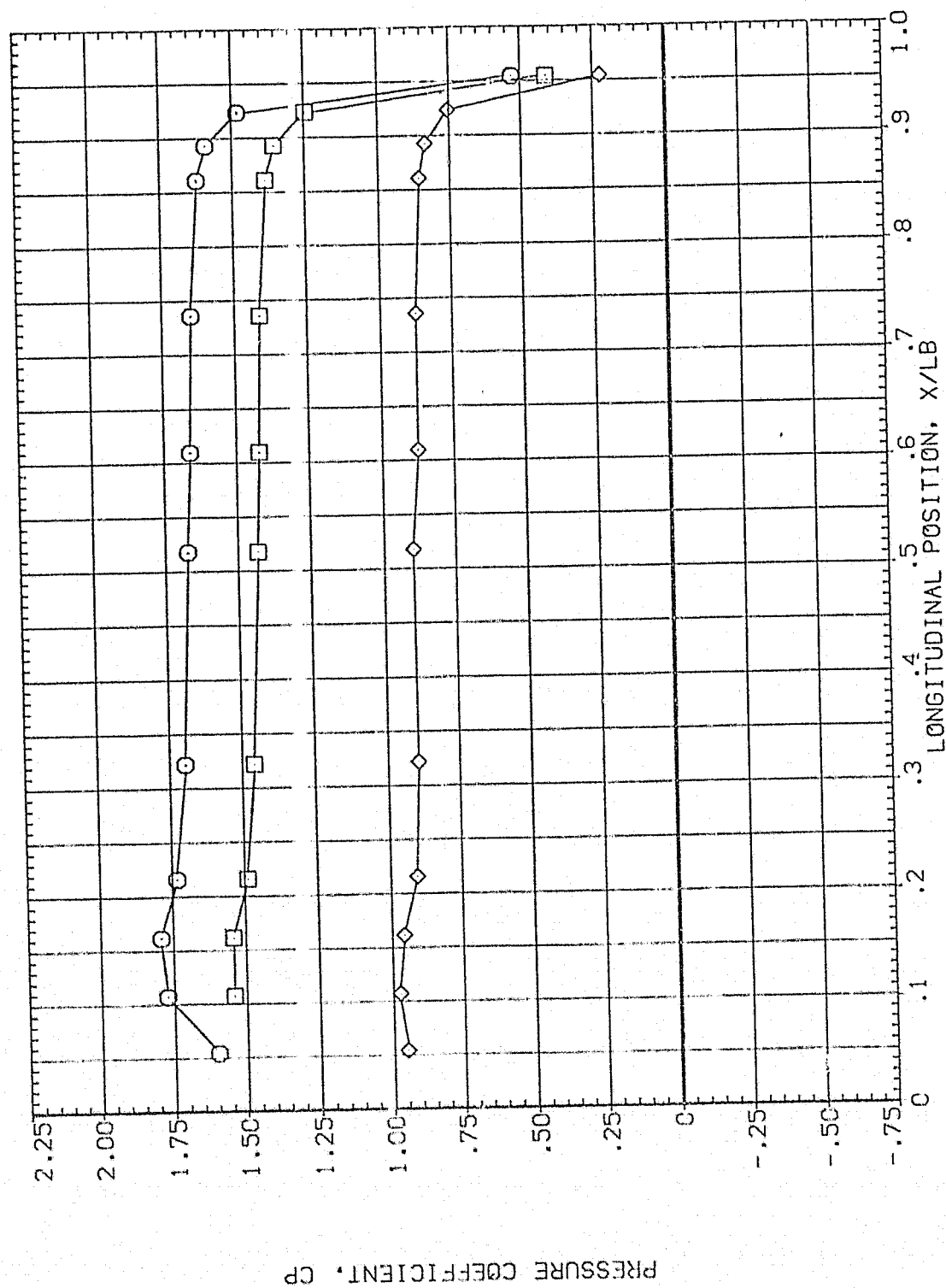


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
					2.000	.000	80.000
○	247.500	74.860	3.480	MOUNT	PHI		
□	270.000						
◇	292.500						

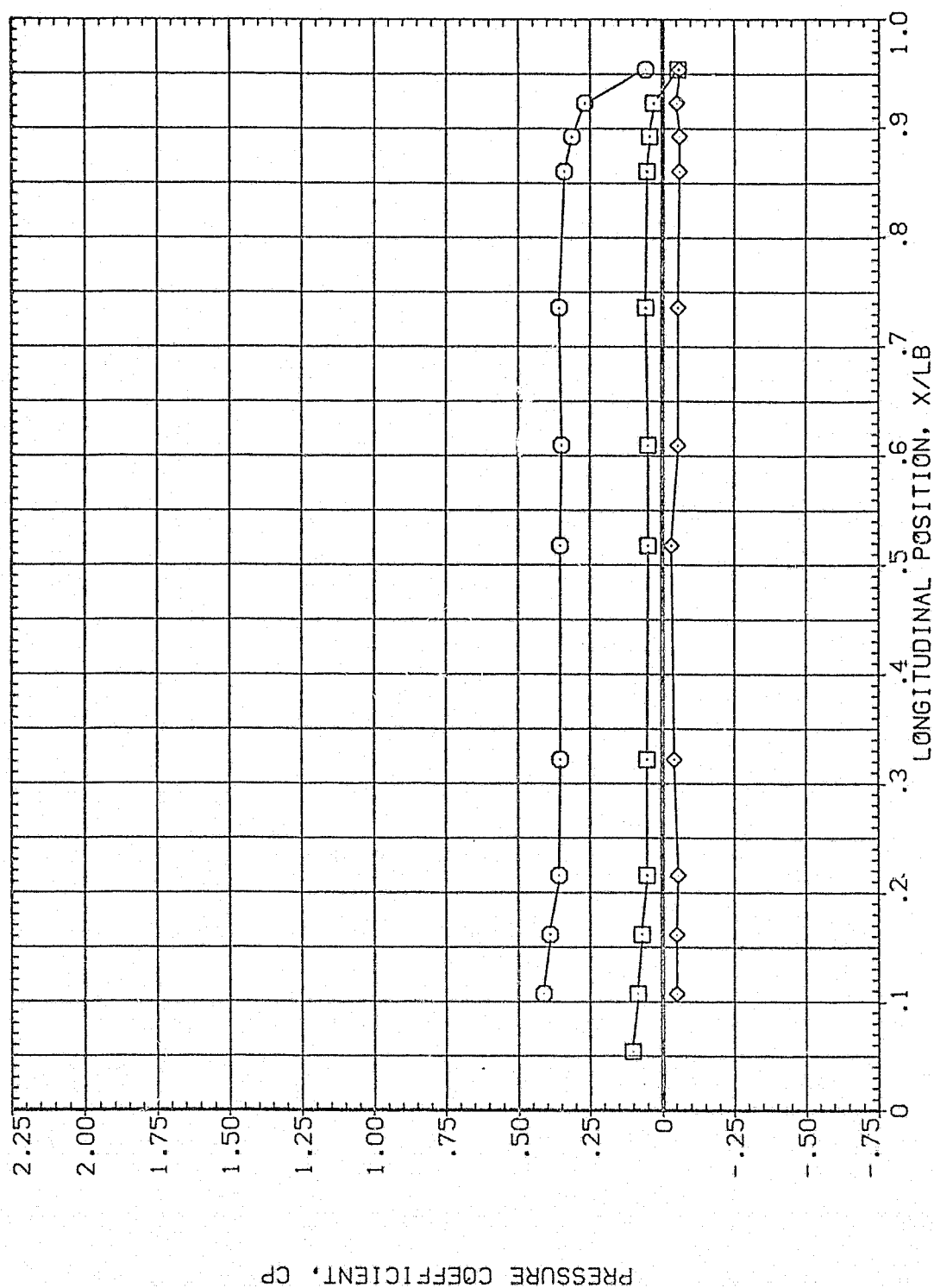


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL    THETA    ALPHA    MACH  
 ○    315.000    74.860    3.480  
 □    325.000  
 ◇    346.000

PARAMETRIC VALUES  
 BETA    .000    OFFSET    80.000  
 MOUNT    2.000    PHI    .000

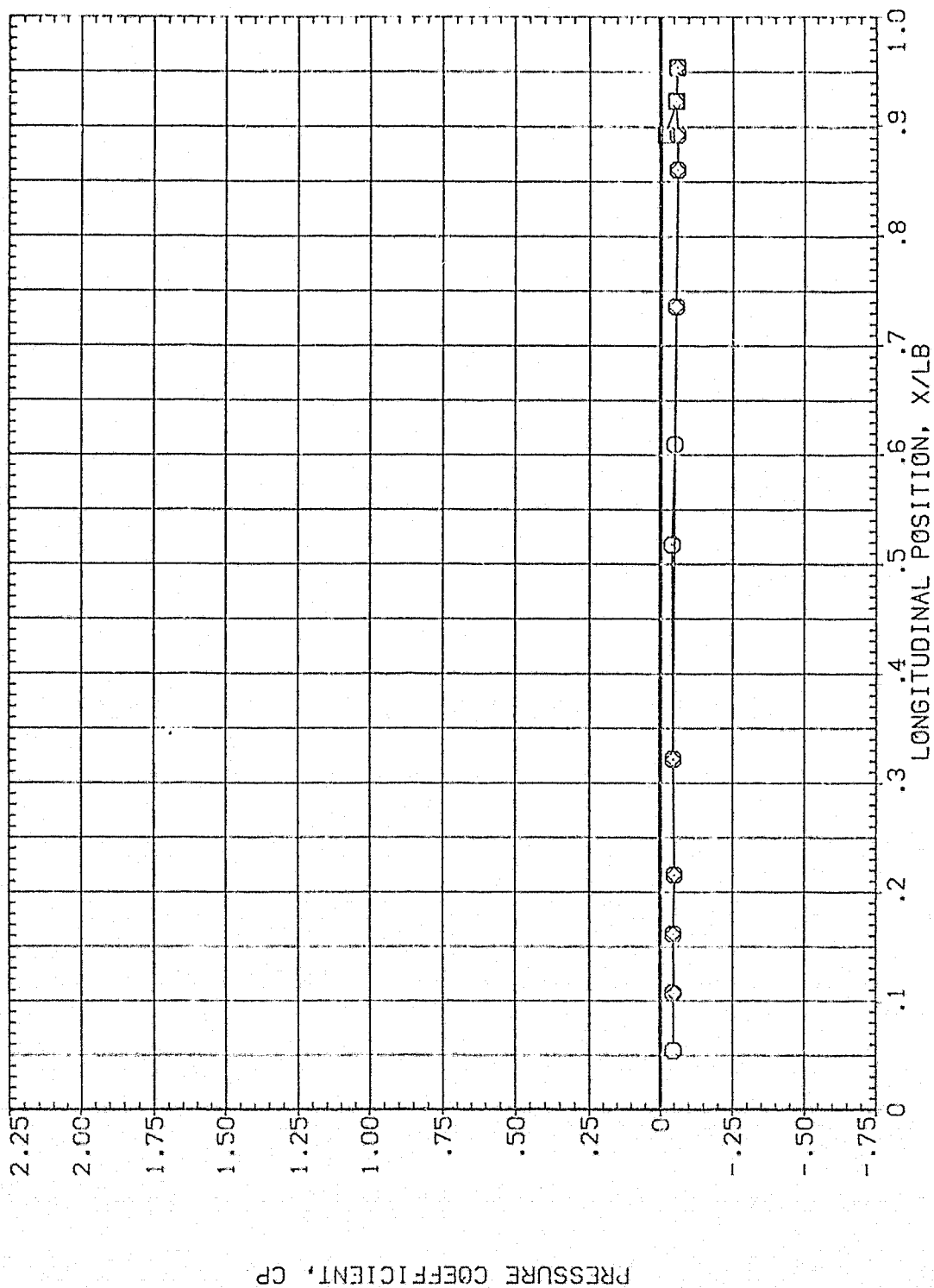


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL

THETA  
14.000  
24.000

ALPHA  
77.880

MACH  
3.480

(P1A071)

PARAMETRIC VALUES  
BETA  
HOUNT

2.000  
80.000  
PHI  
.000

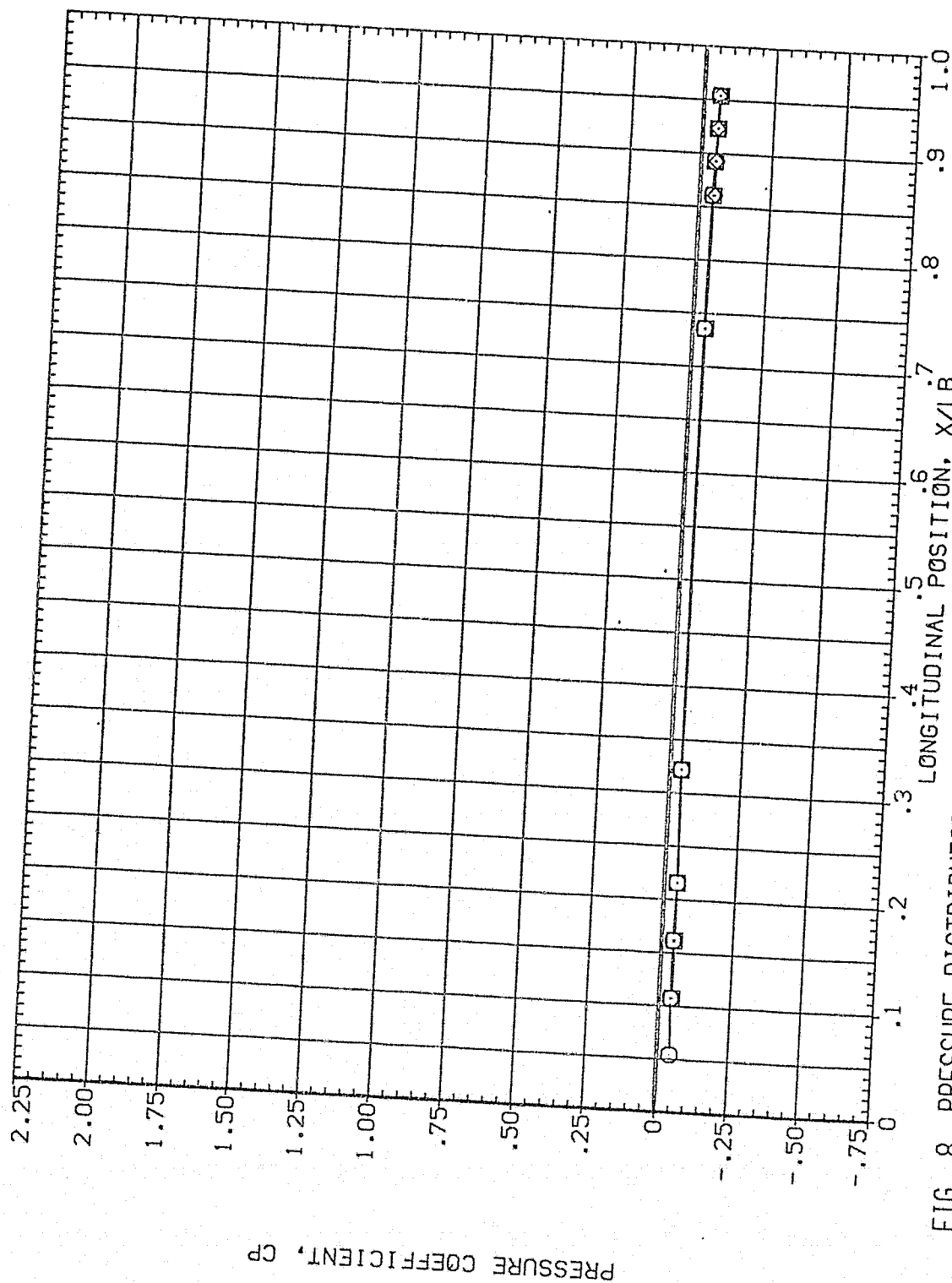


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	77.880	3.480	HOUNT	.000 OFFSET
□	67.500				2.000 PHI
◇	90.000				80.000 .000

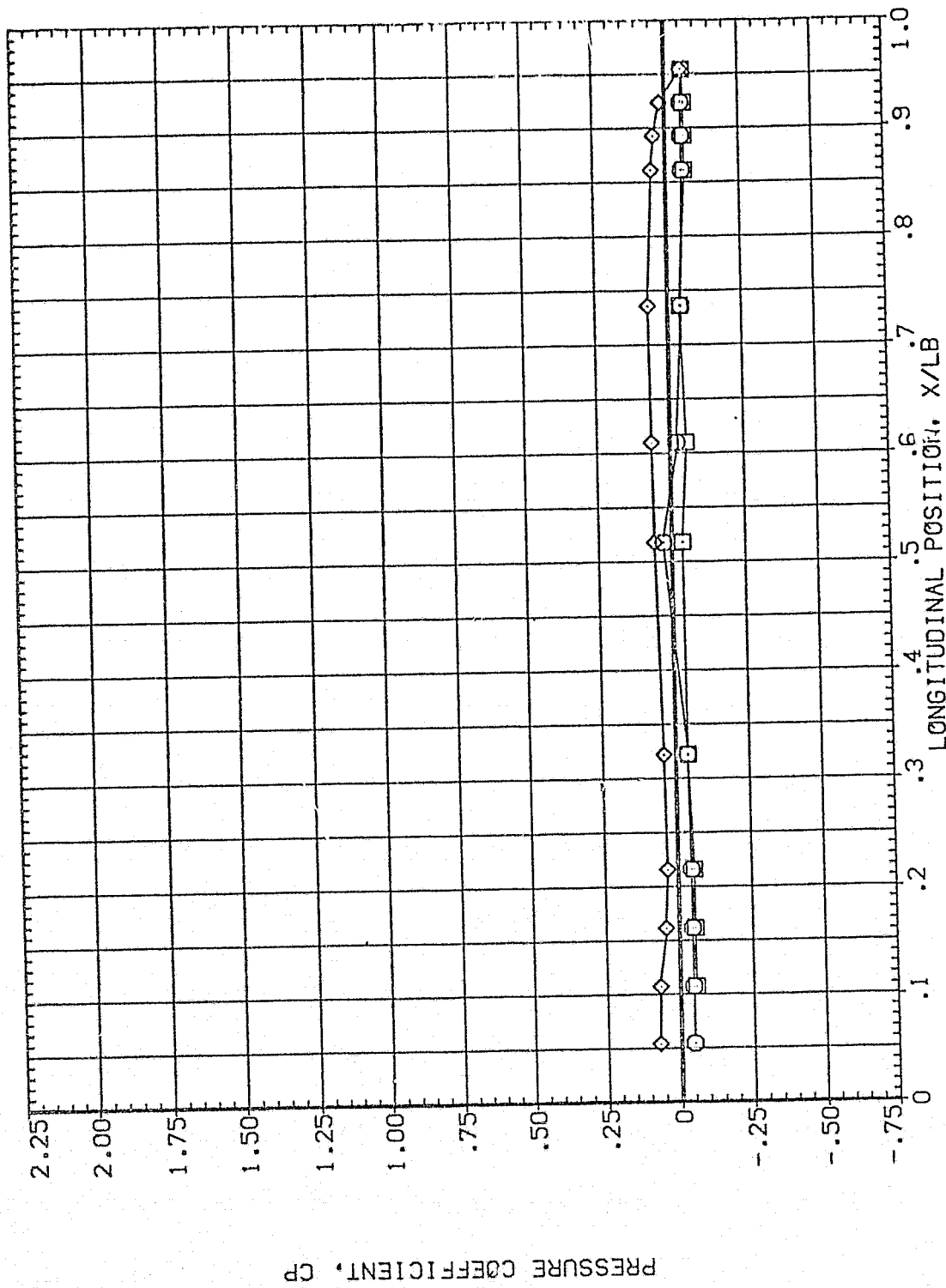


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

PARAMETRIC VALUES  
 BETA .000  
 HOUNT 2.000  
 OFFSET PHI 80.000  
 .000

THETA ALPHA MACH  
 112.500 77.880 3.480  
 135.000  
 157.500

SYMBOL  
 ○  
 □  
 ◇

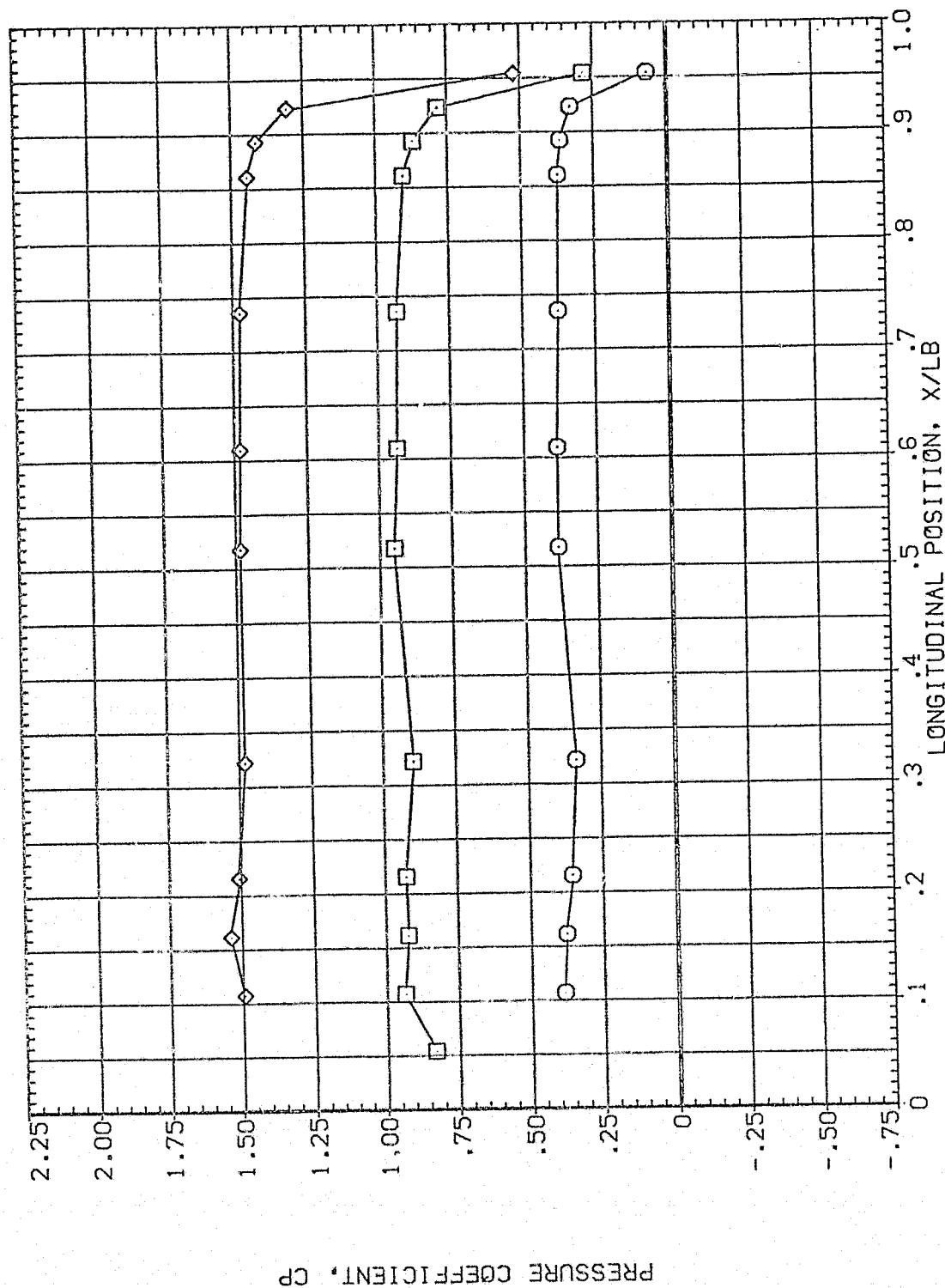


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	77.880	3.480	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				80.000 .000

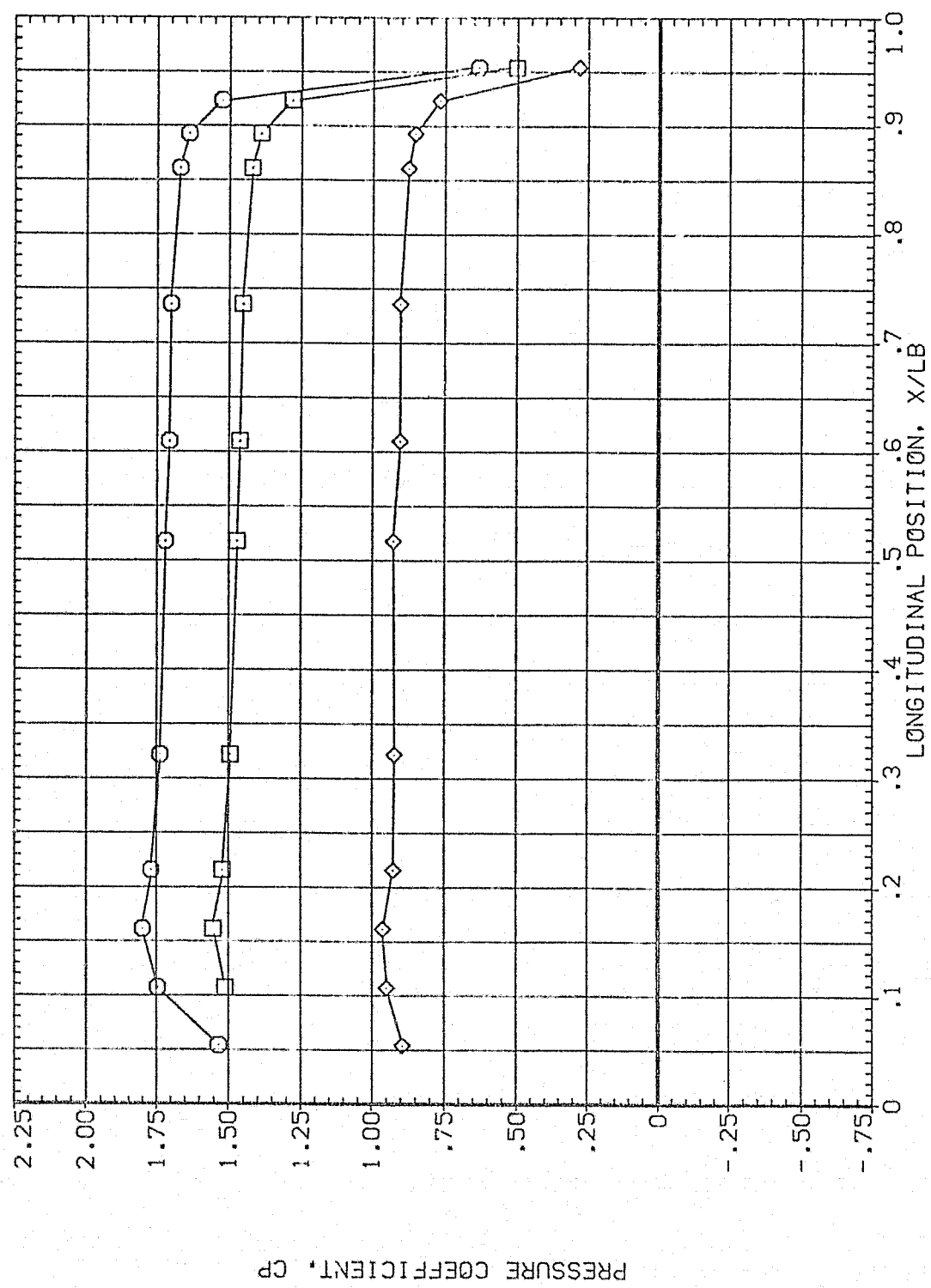


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	77.880	3.480	MOUNT	.000 OFFSET 80.000
□	270.000				2.000 PHI
◇	292.500				

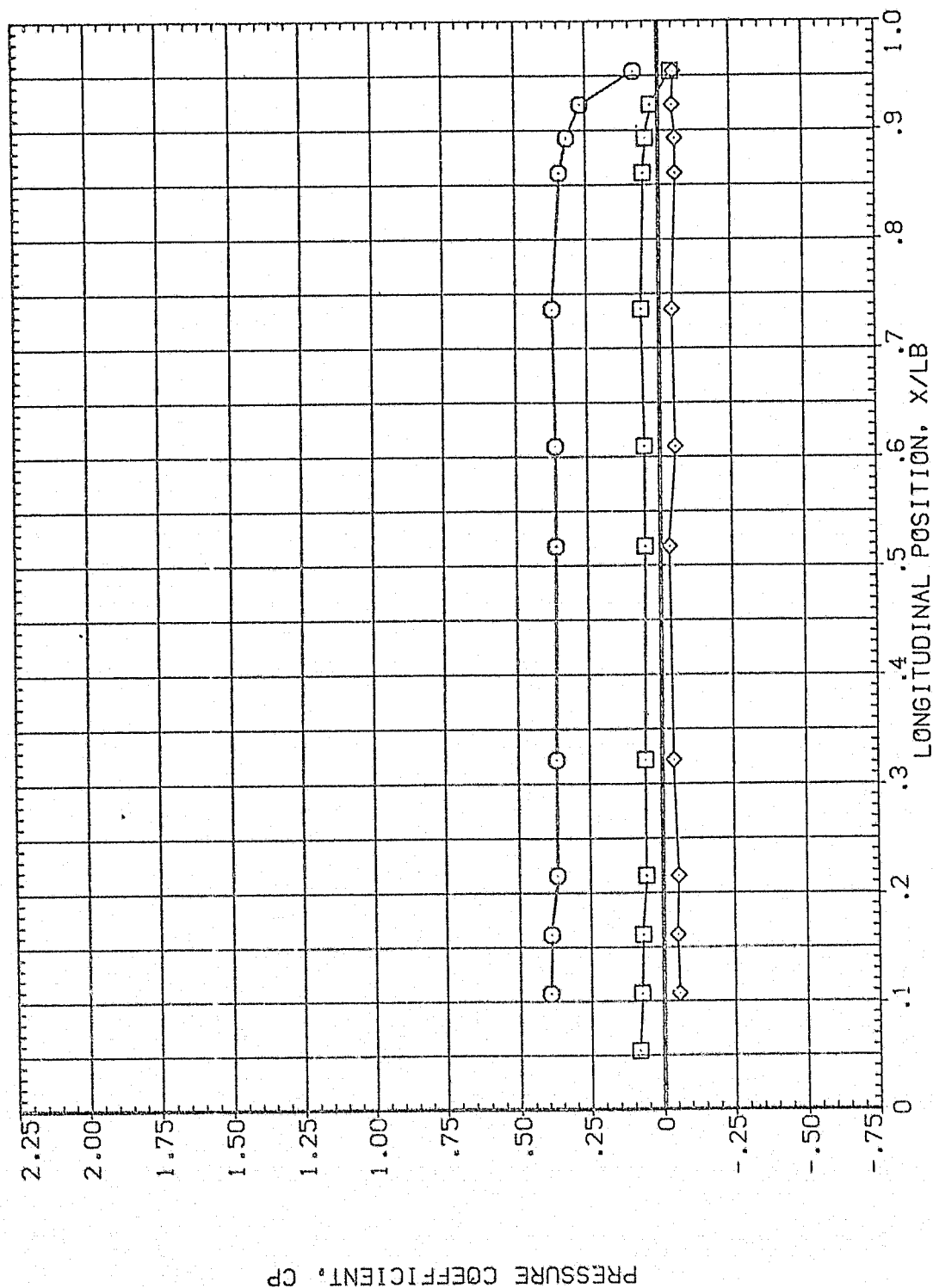


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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SYMBOL	THEIA	ALPHA	MACH	BETA	PARAMETRIC VALUES
◇	315.200	77.880	3.480	MOUNT	.000
□	326.000				OFFSET
◇	346.000				PHI
					90.000
					.000

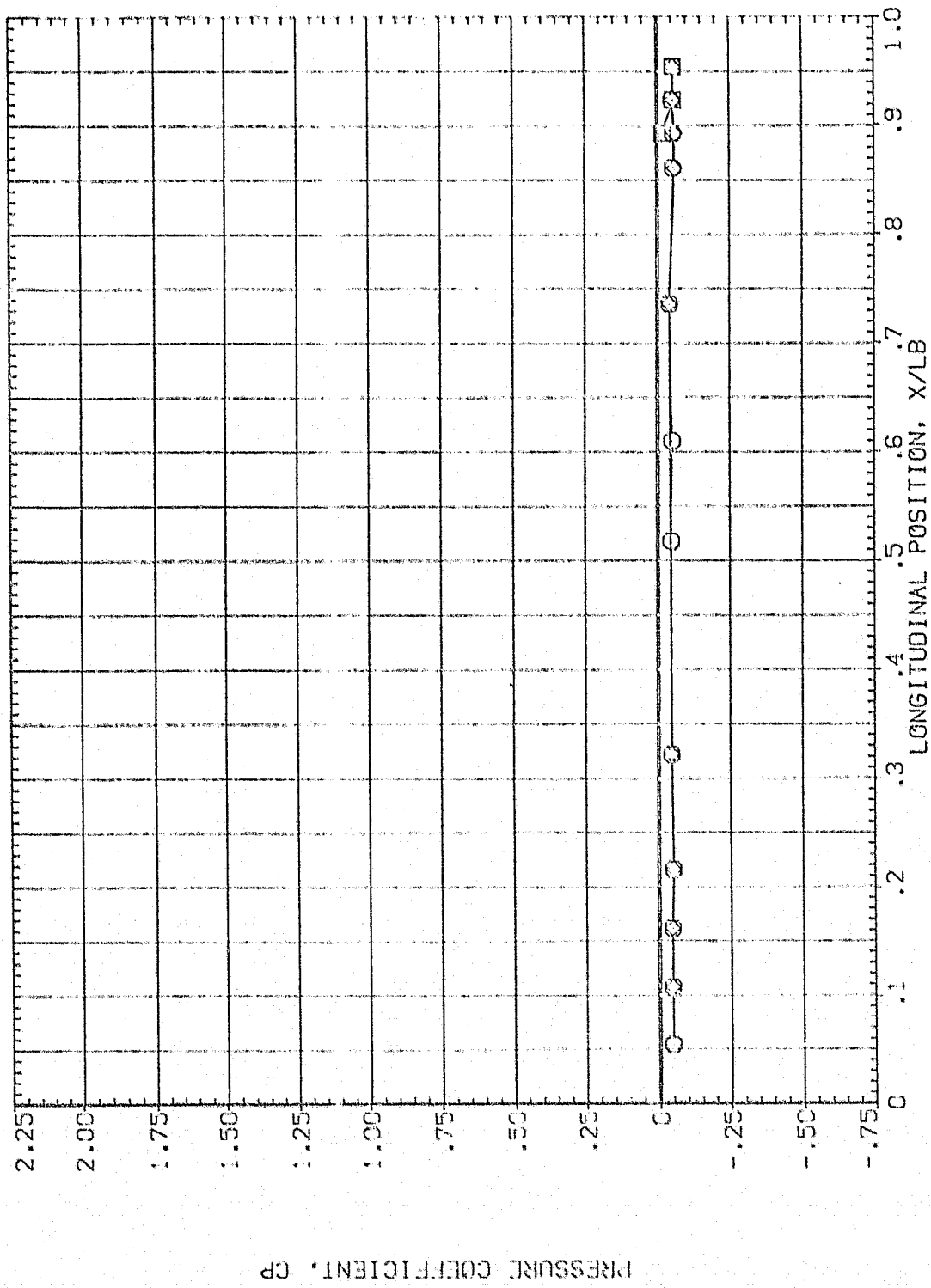


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	THETA		ALPHA		HACH		BETA		PARAMETRIC VALUES	
	.000	14.000	79.930	3.480	90.000	0.000	2.000	0.000	90.000	0.000
○										
□										
◇										

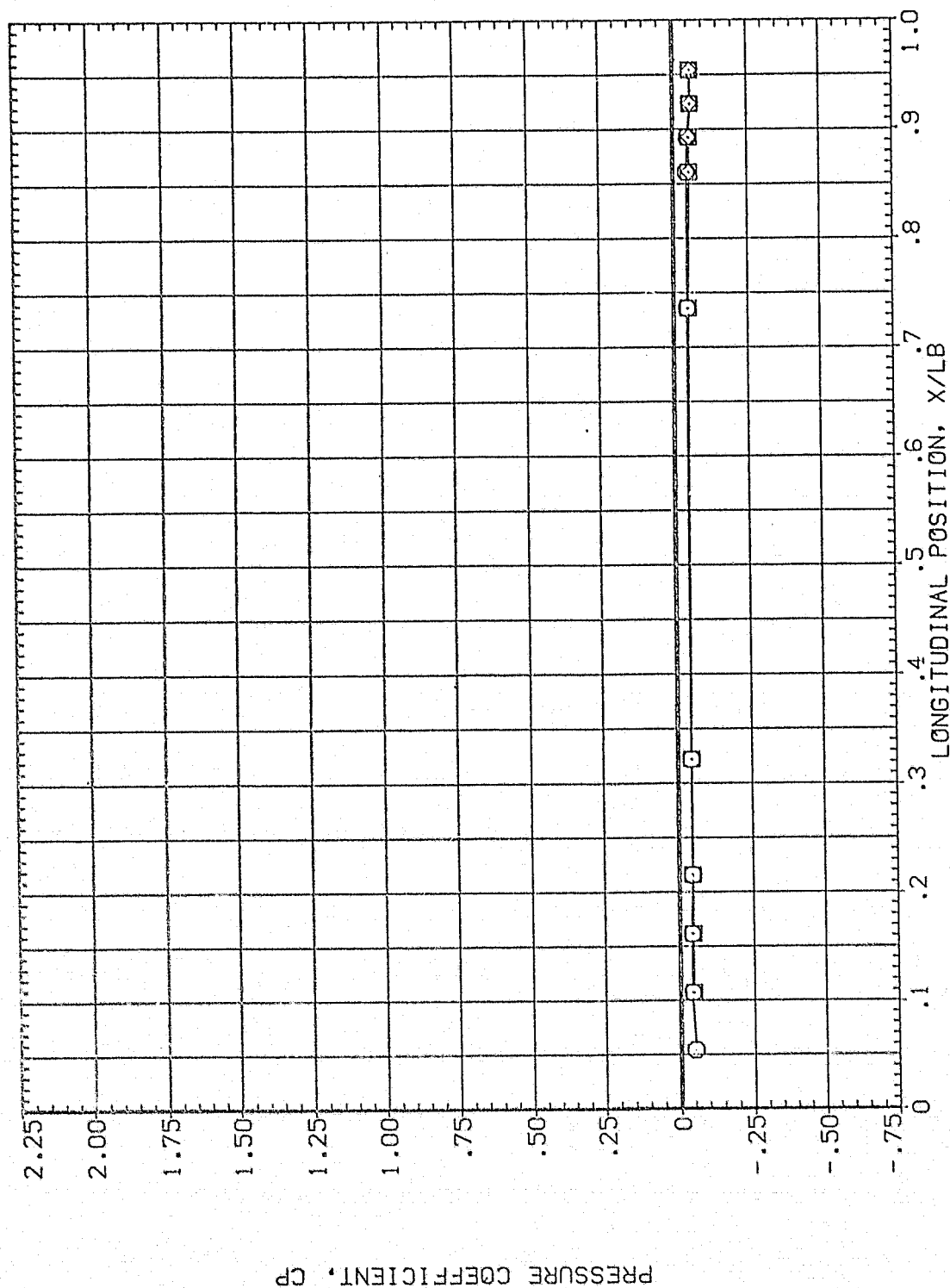


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	45.000	79.930	3.480	MOUNT	.000	90.000
□	67.500				2.000	
◇	90.000					.000

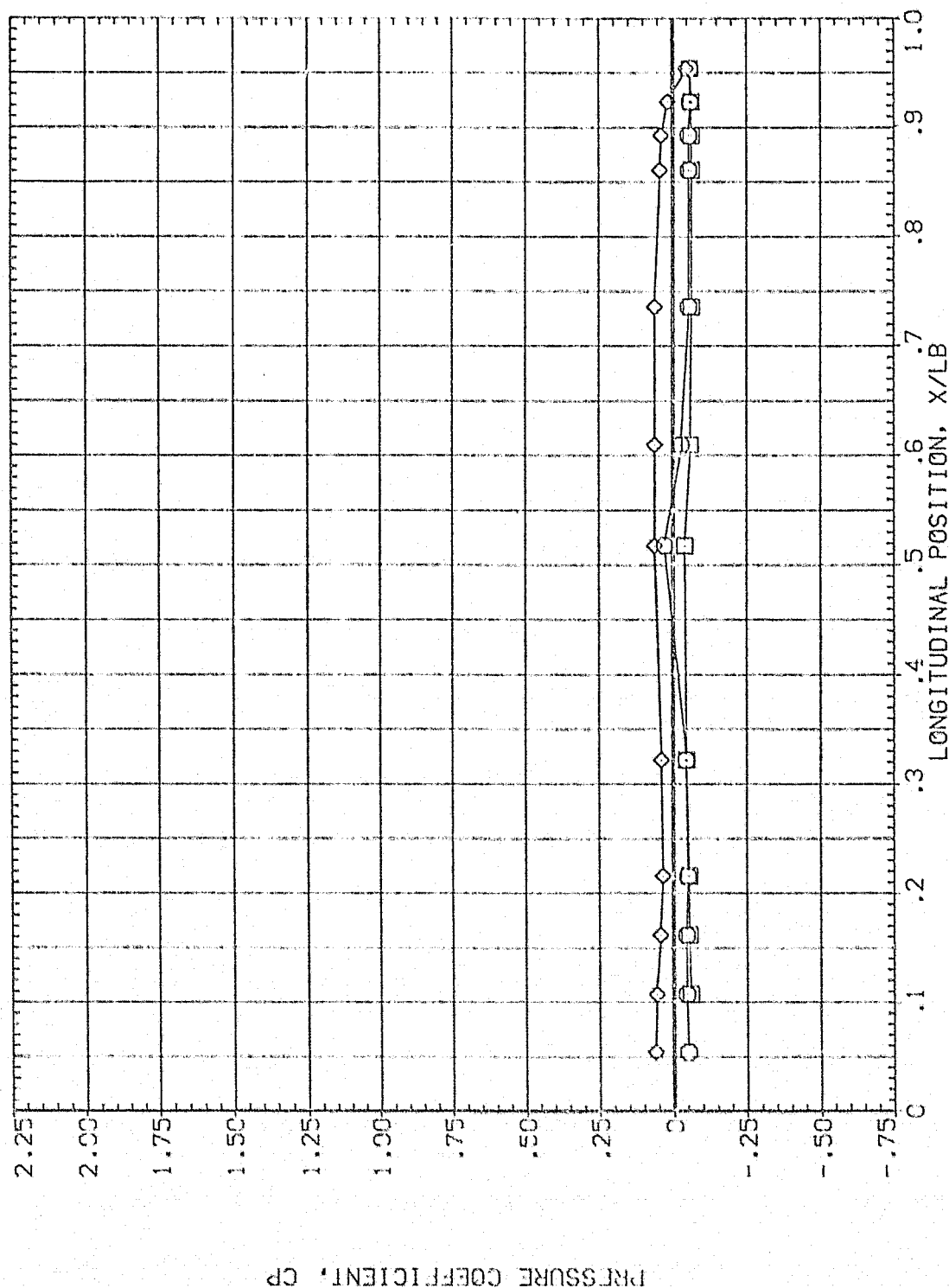


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A072)

SYMBOL

THETA  
112.500  
135.000  
157.500

ALPHA  
79.930  
MACH  
3.480

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI  
90.000  
.000

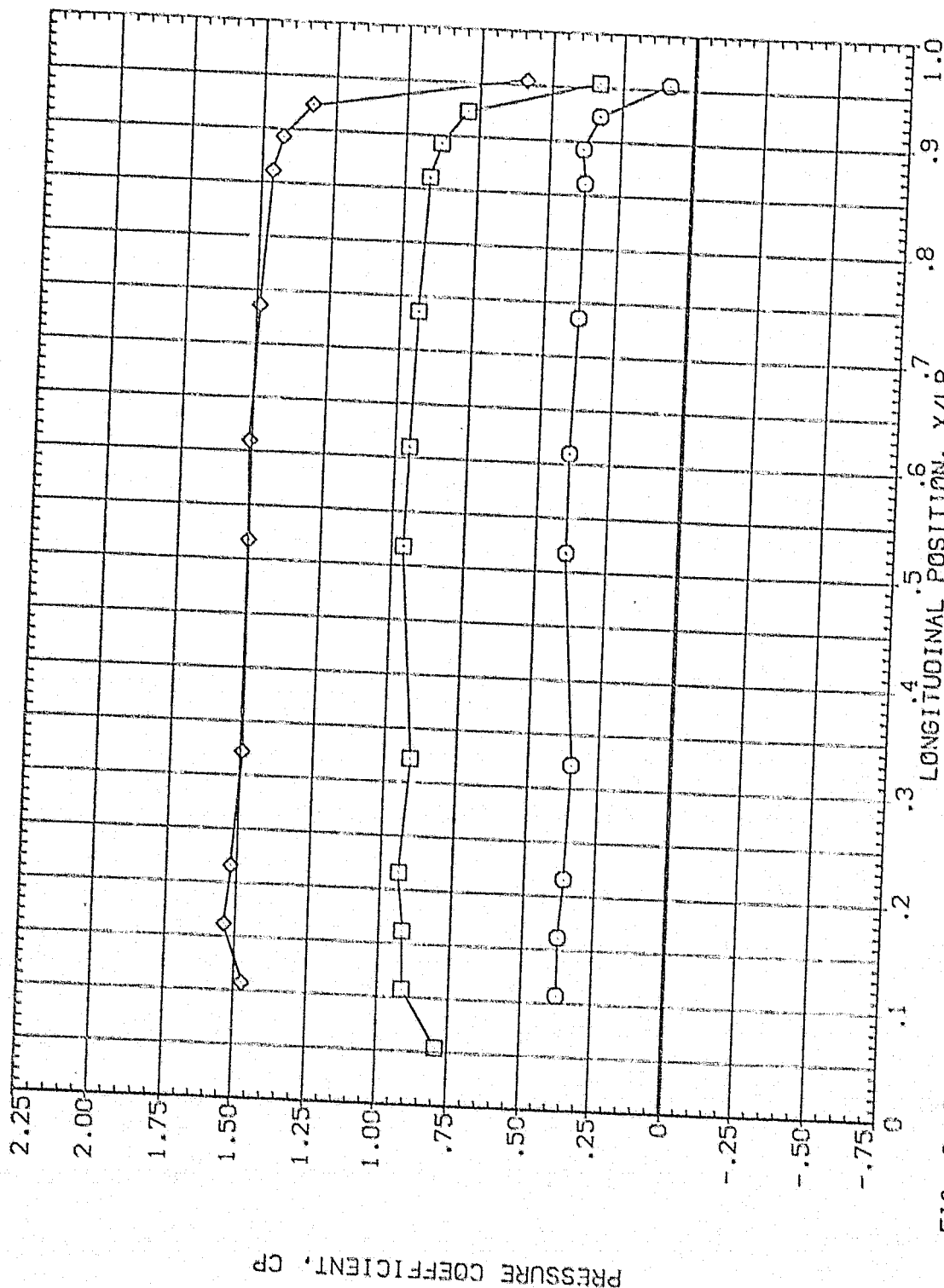


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTRUDANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	79.930	3.480	2.000	.000
□	202.500			2.000	OFFSET
◇	225.000			PHI	90.000
					.000

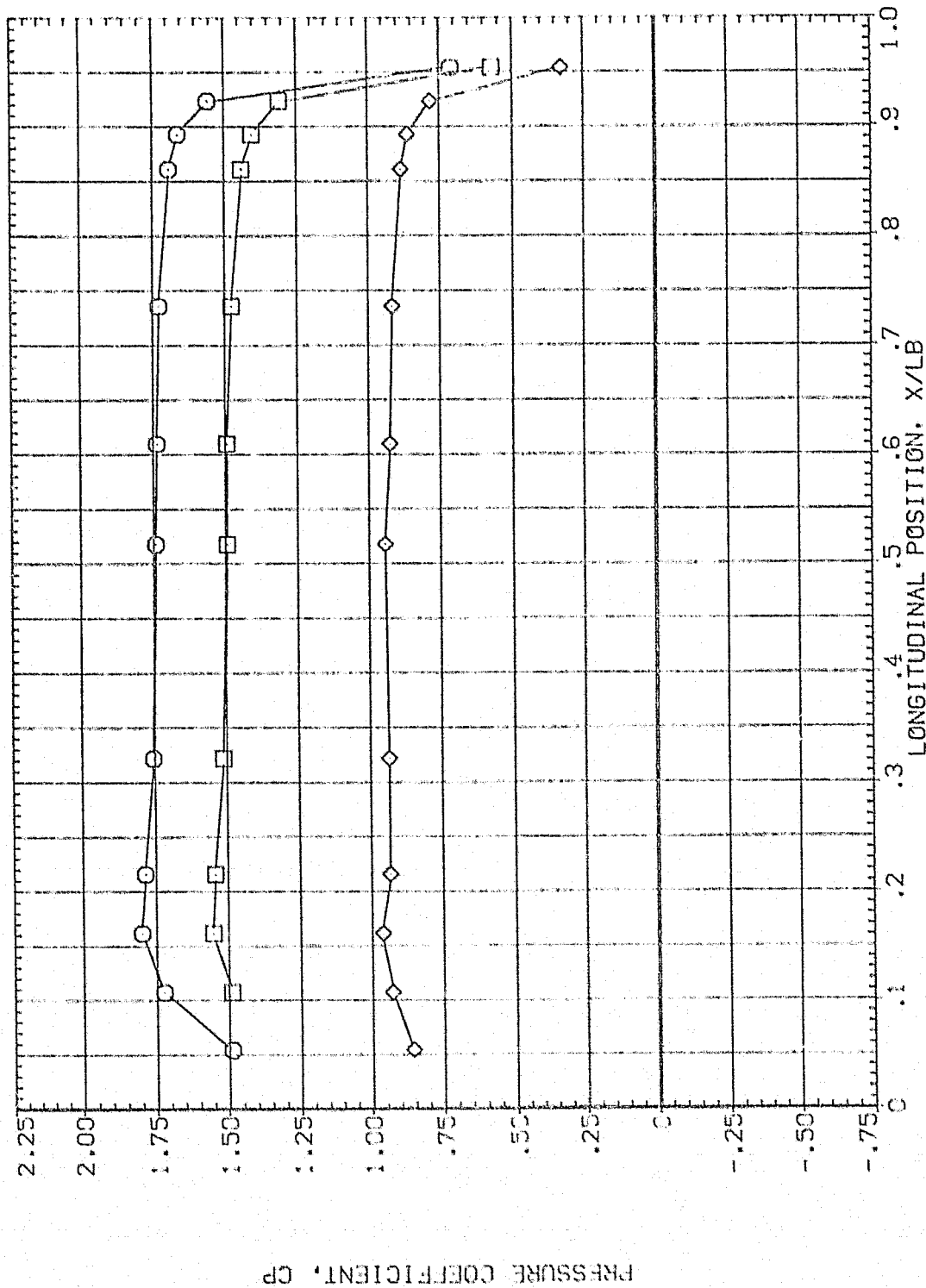


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	73.930	3.480	HEIGHT	.000
□	270.000				2.000
◇	292.500				OFFSET
					PHI
					90.000
					.000

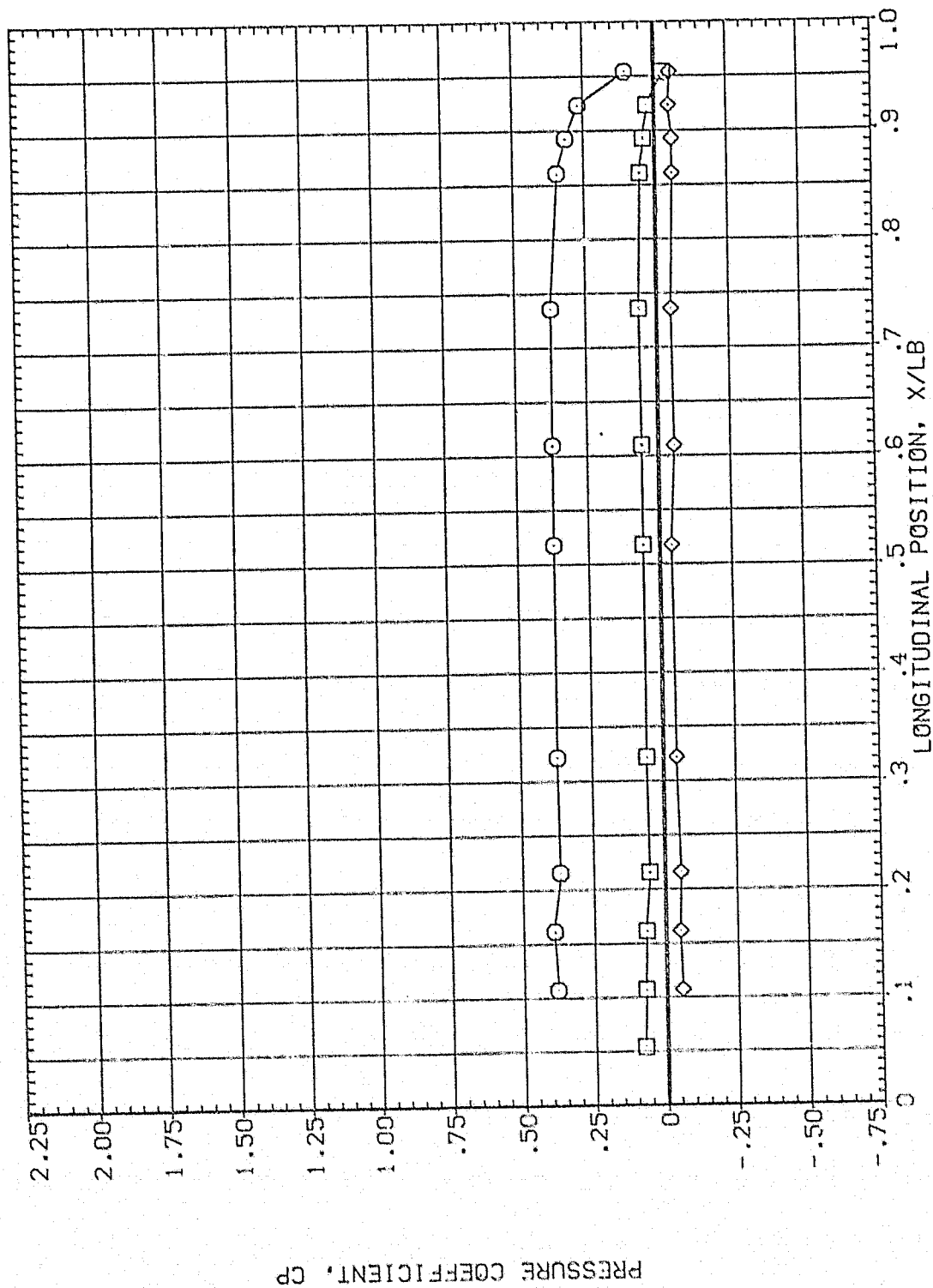


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	79.930	3.480	MOUNT	.000
□	326.000				2.000
◇	346.000				PHI
					90.000
					OFFSET
					.000

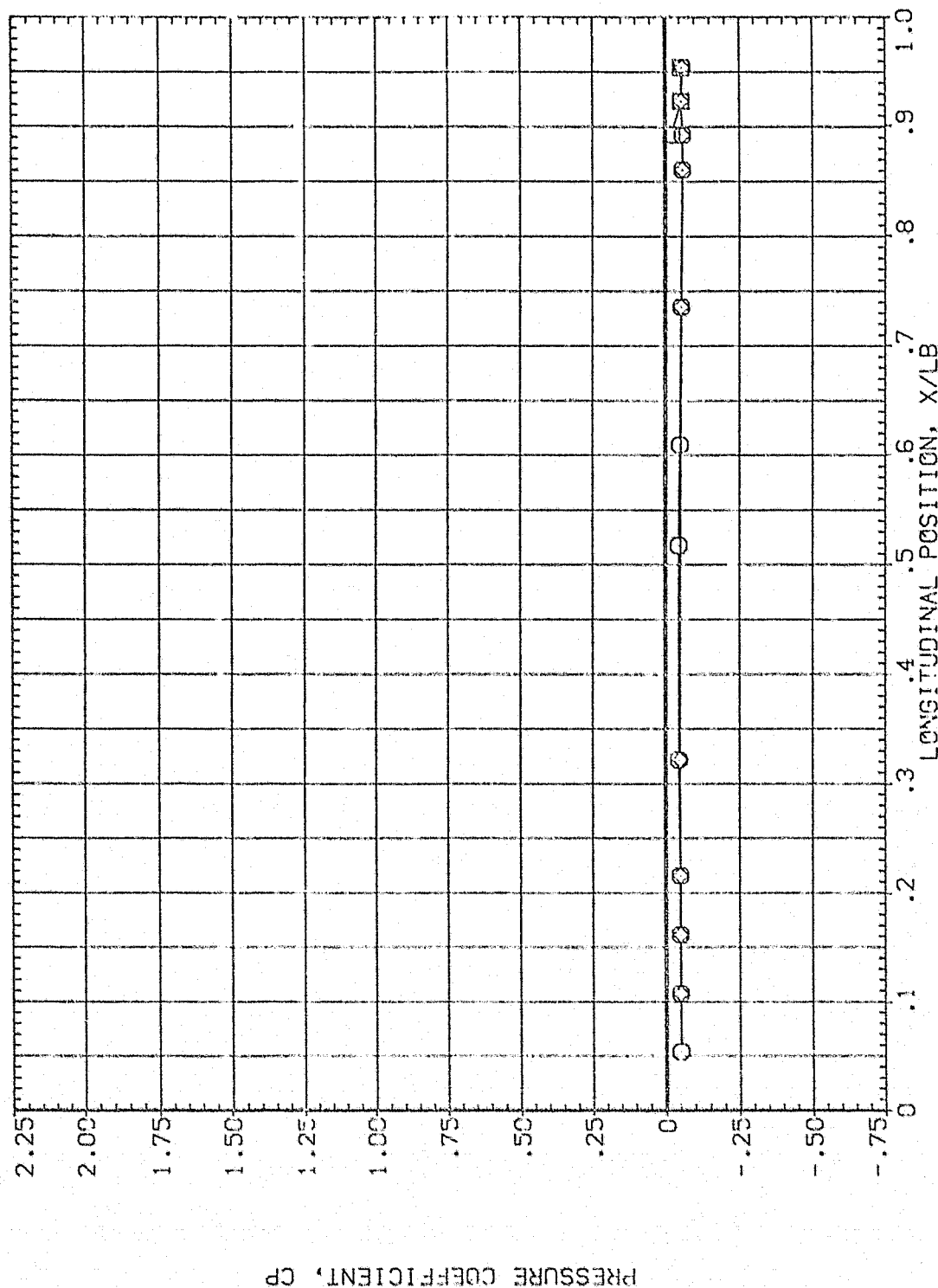


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	.000	14.000	81.330	81.330	3.480	3.480	BETA	OFFSET	PHI	90.000
○							Mount	2.000		.000
◇										

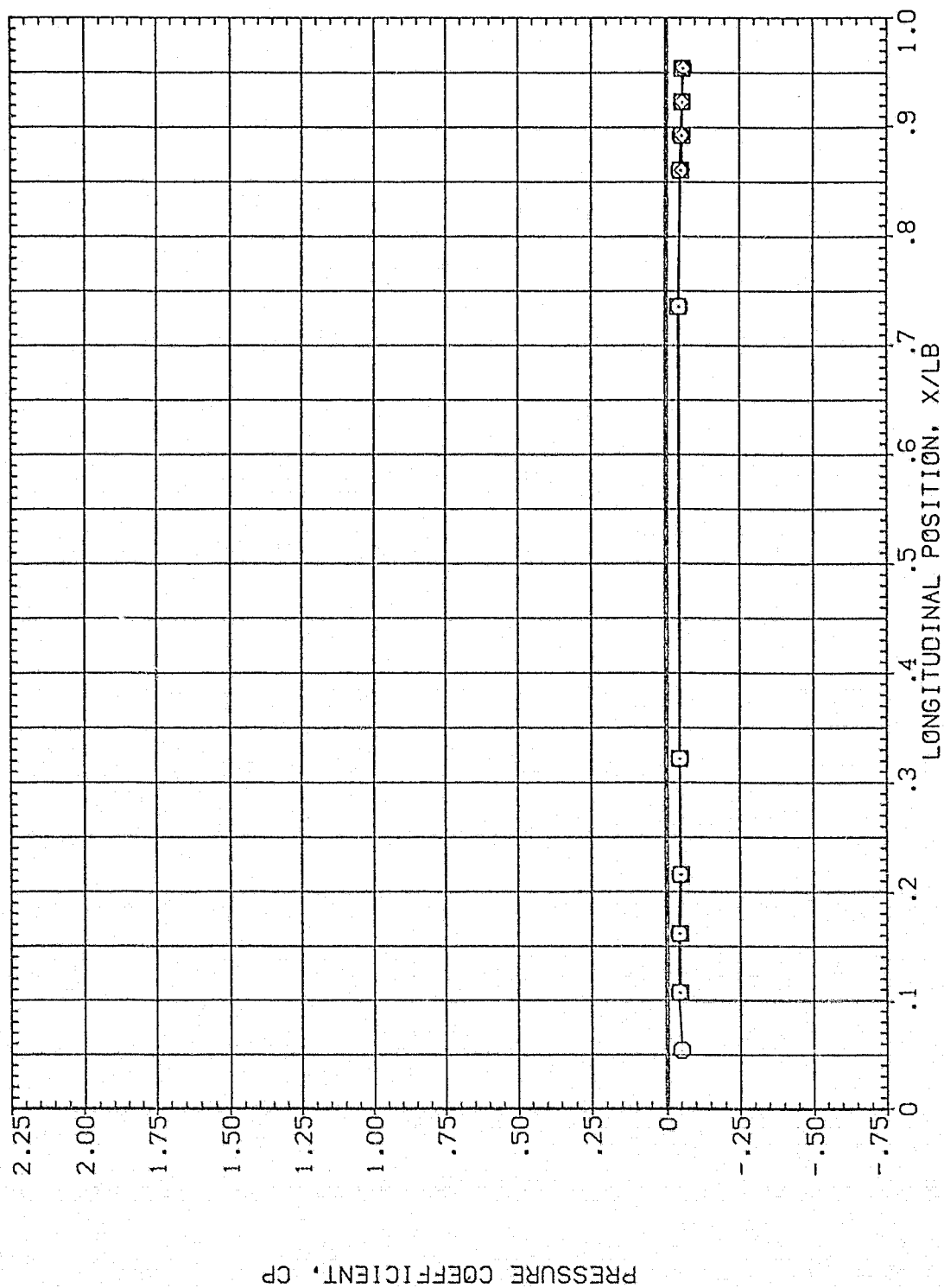


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL THETA ALPHA MACH  
 O 45.000 81.830 3.480  
 □ 67.500  
 ◇ 90.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

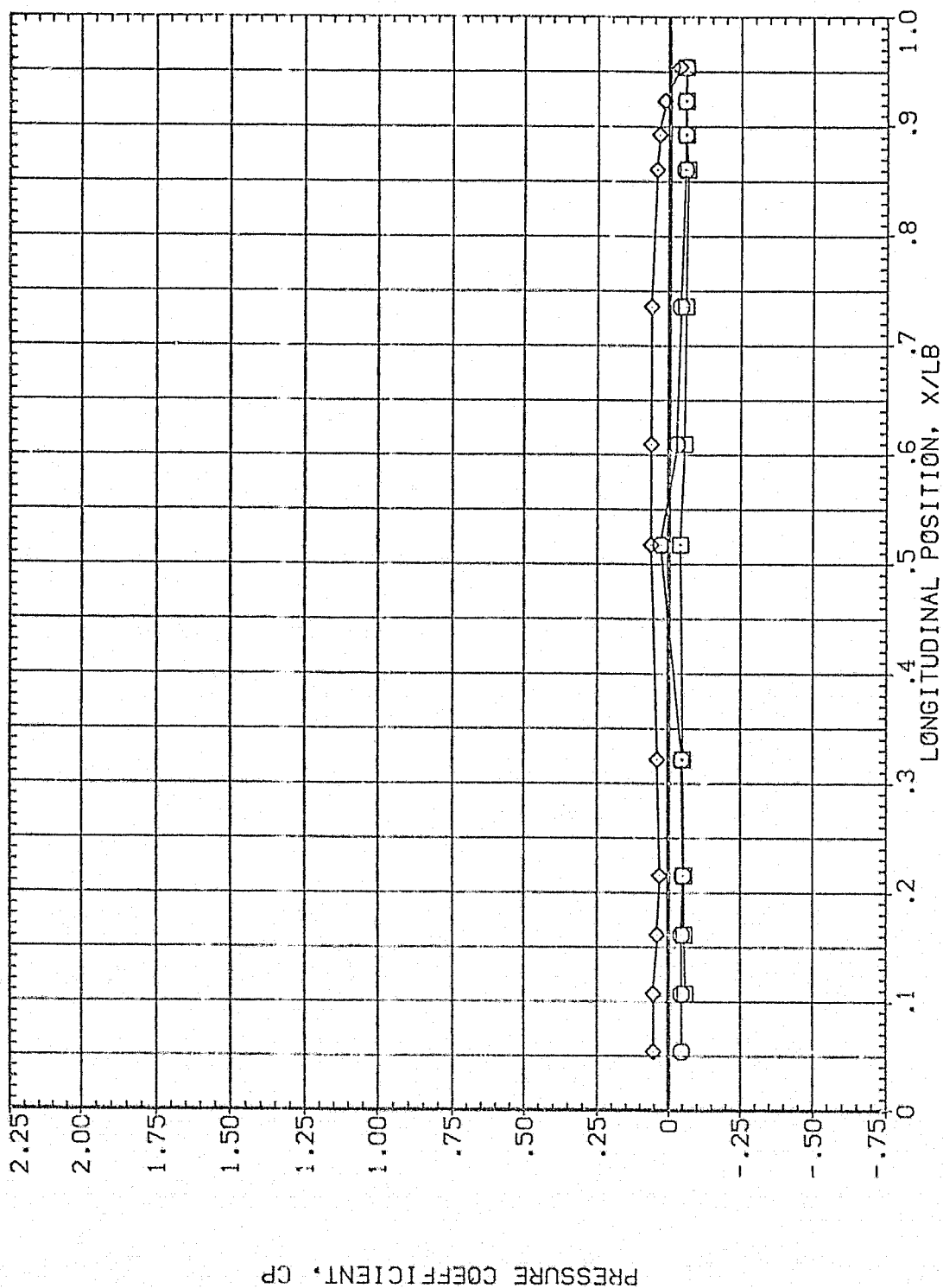


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA MOUNT	OFFSET PHI	90.000 .000
○	112.500	81.830	3.480			
□	135.000					
◇	157.500					

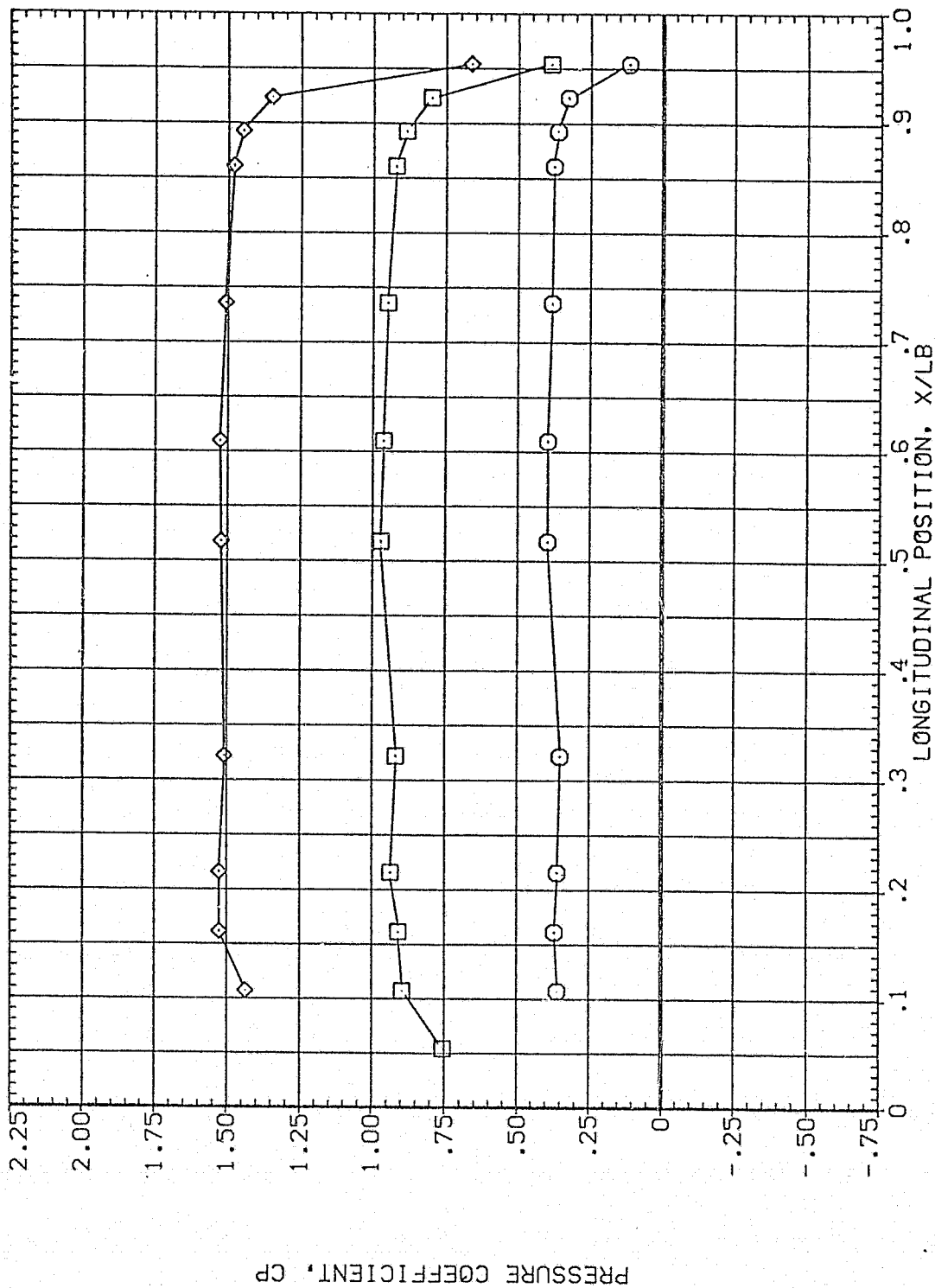


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

SYMBOL THETA ALPHA MACH  
 180.000 81.830 3.480  
 202.500  
 225.000

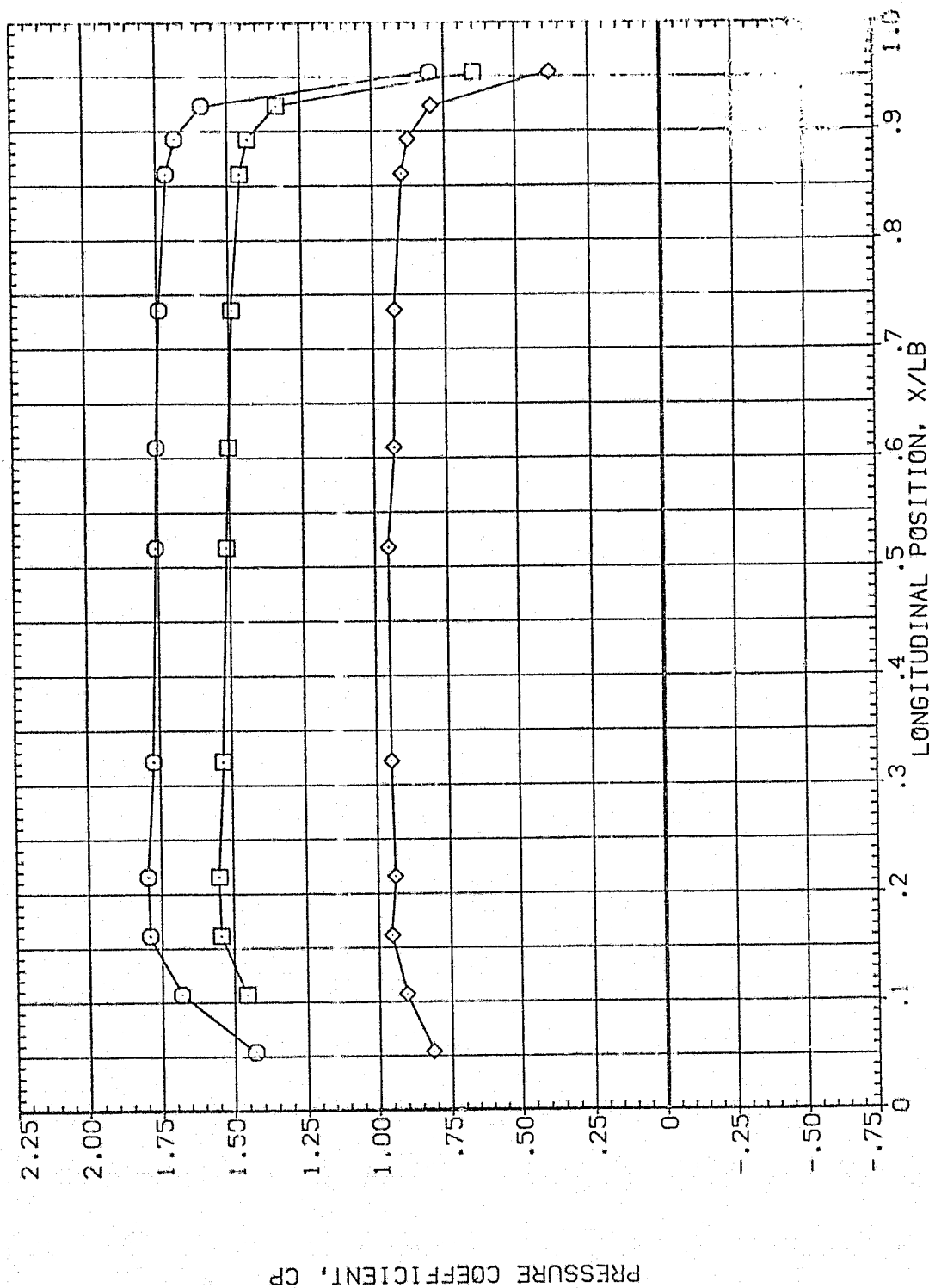


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	247.500	81.830	3.480	Mount	.000	.000
□	270.000					
◇	292.500					

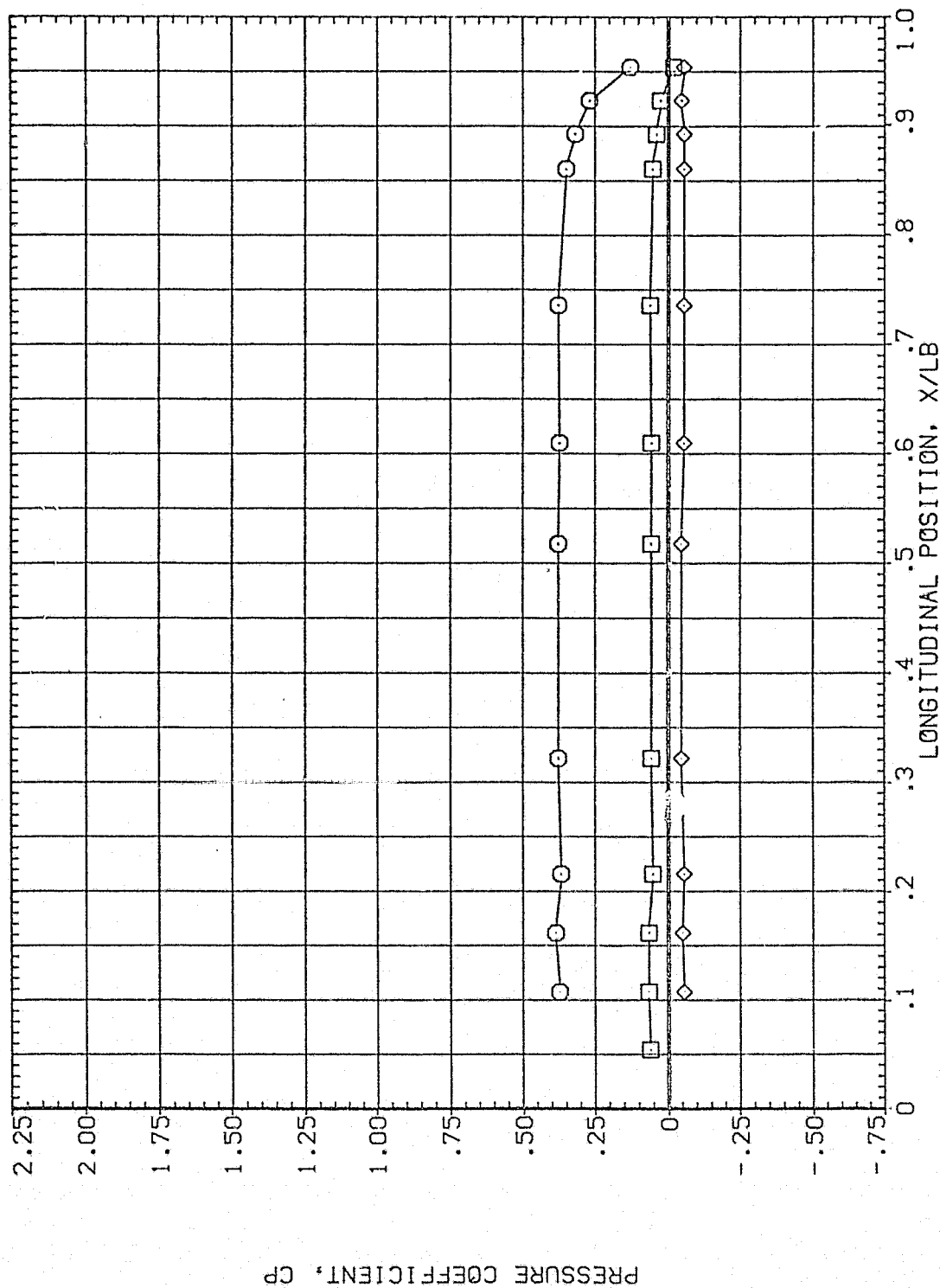


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL THETA ALPHA MACH  
 O 315.000 81.830 3.480  
 □ 326.000  
 ◇ 346.000

PARAMETRIC VALUES  
 BETA .000  
 HOUNT 2.000  
 OFFSET PHI .000

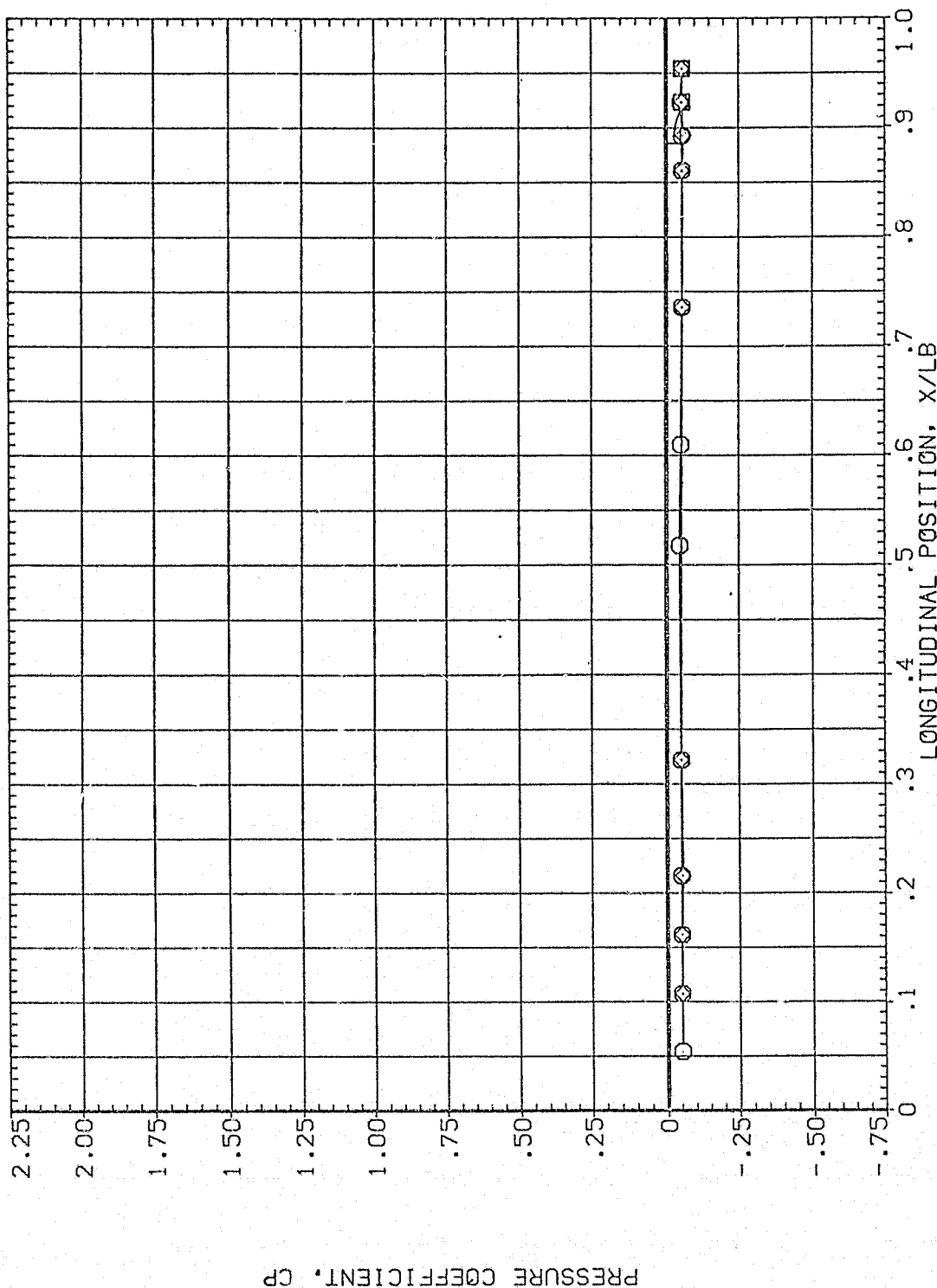


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL

THETA  
0.000  
14.000  
24.000

ALPHA  
84.830

MACH  
3.480

PARAMETRIC VALUES

BETA  
MOUNT

0.000  
2.000  
OFFSET  
PHI

90.000  
.000

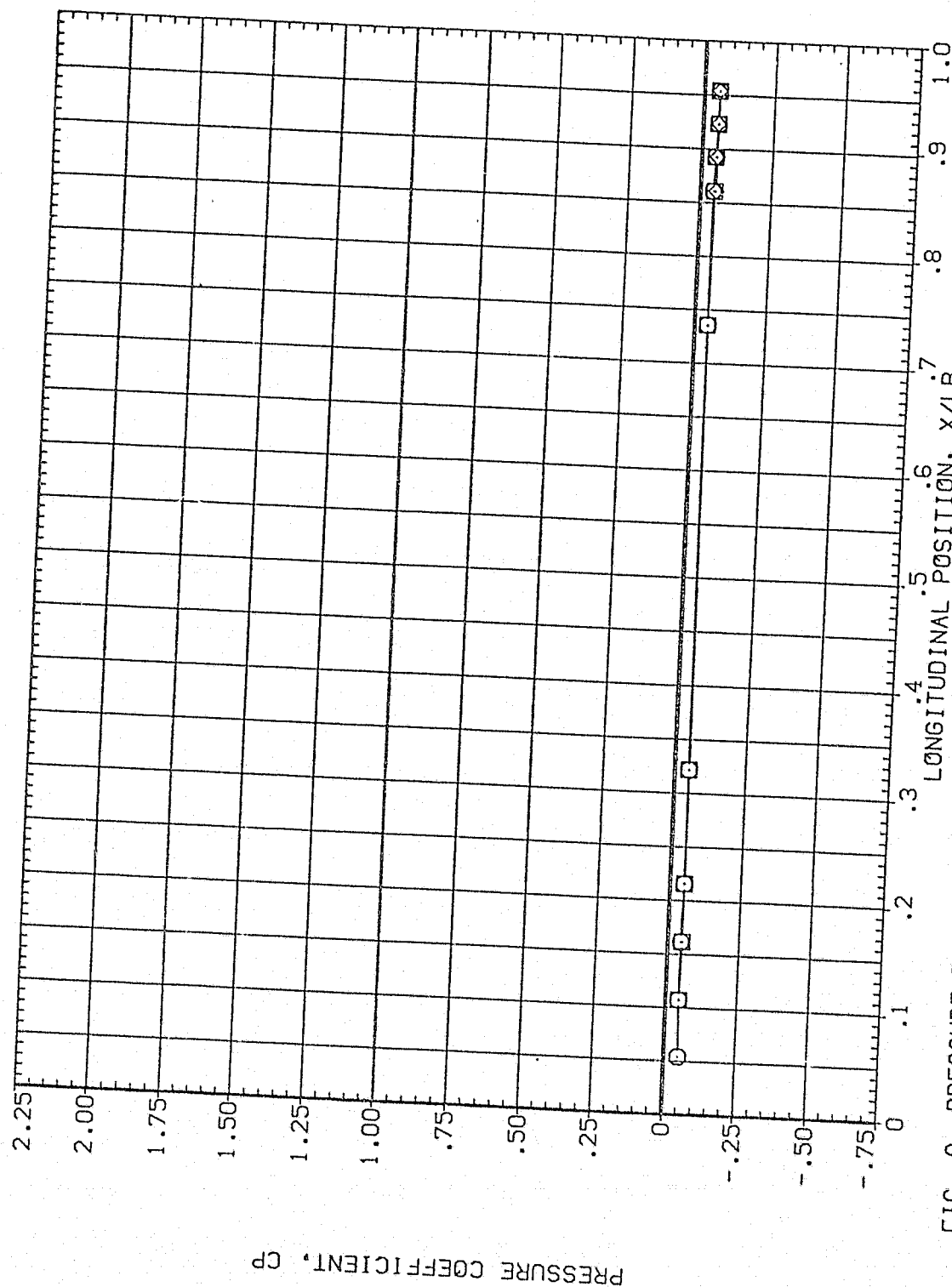


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
◇	45.000	84.830	3.480	MOUNT	.000 OFFSET
□	67.500				2.000 PHI
◇	90.000				50.000

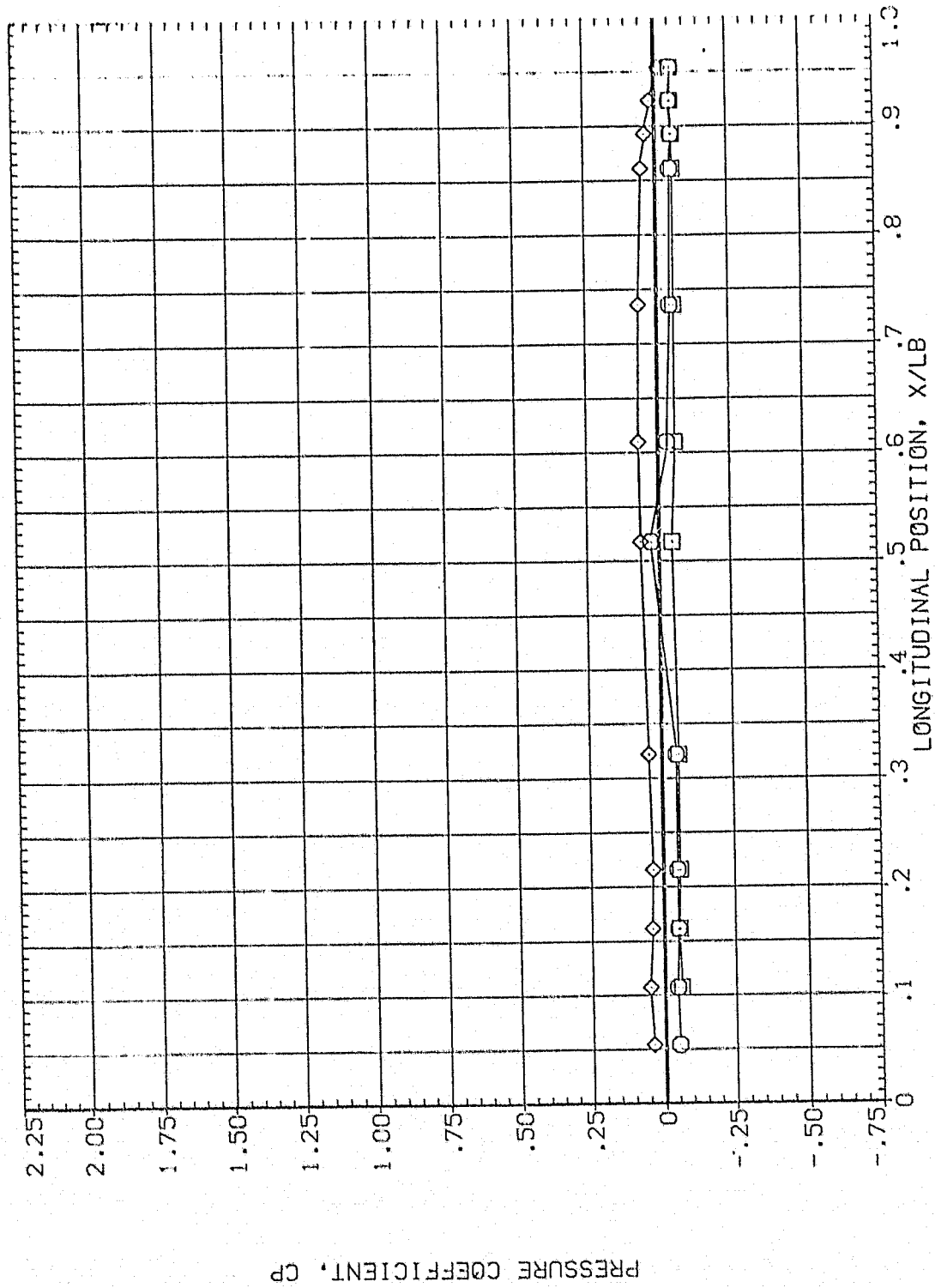


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA MOUNT	OFFSET PHI	90.000 .000
○	112.500	84.830	3.480			
□	135.000					
◇	157.500					

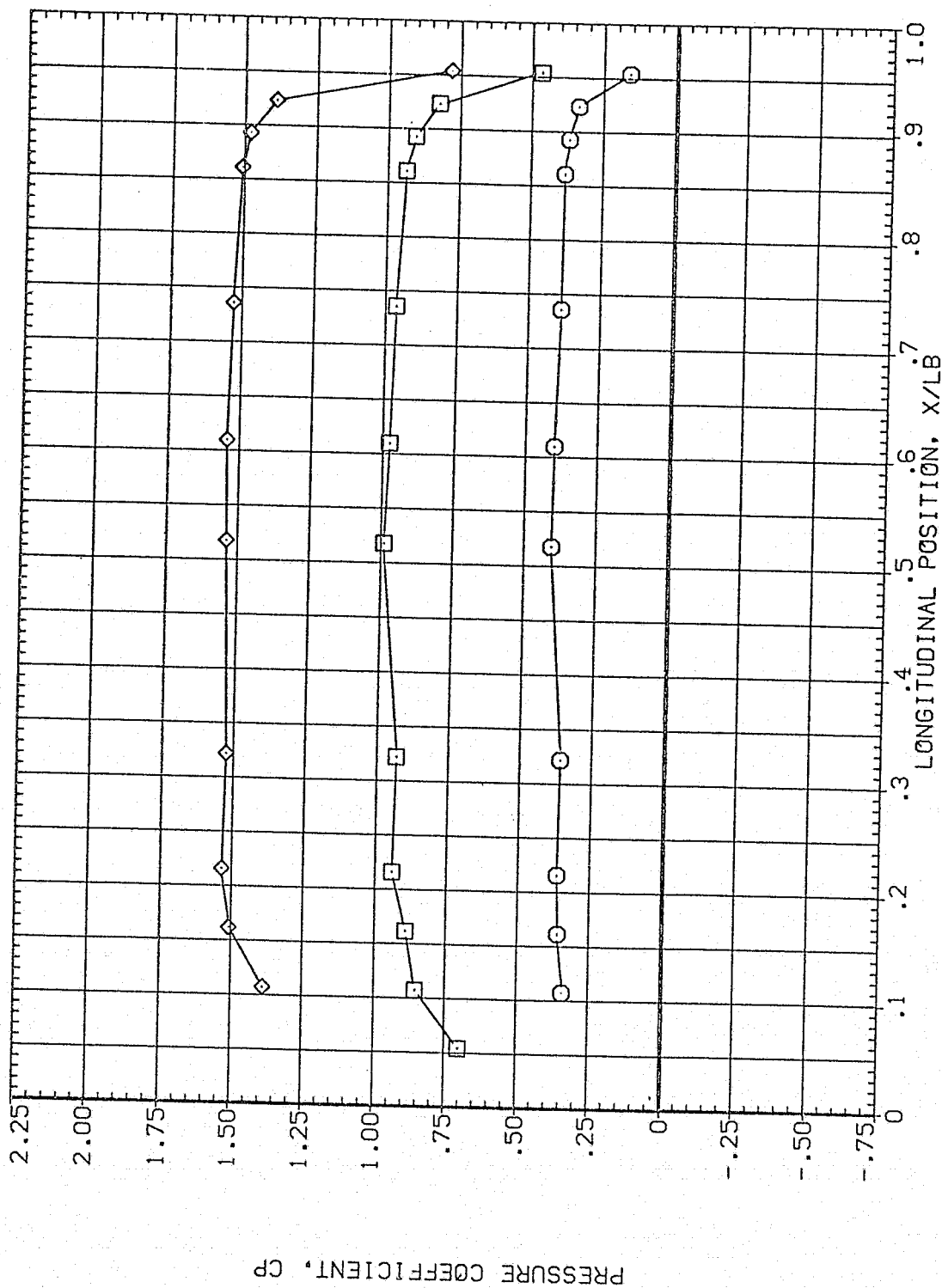


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	84.830	3.480	OUNT	.000
□	202.500				2.000
◇	225.000				90.000

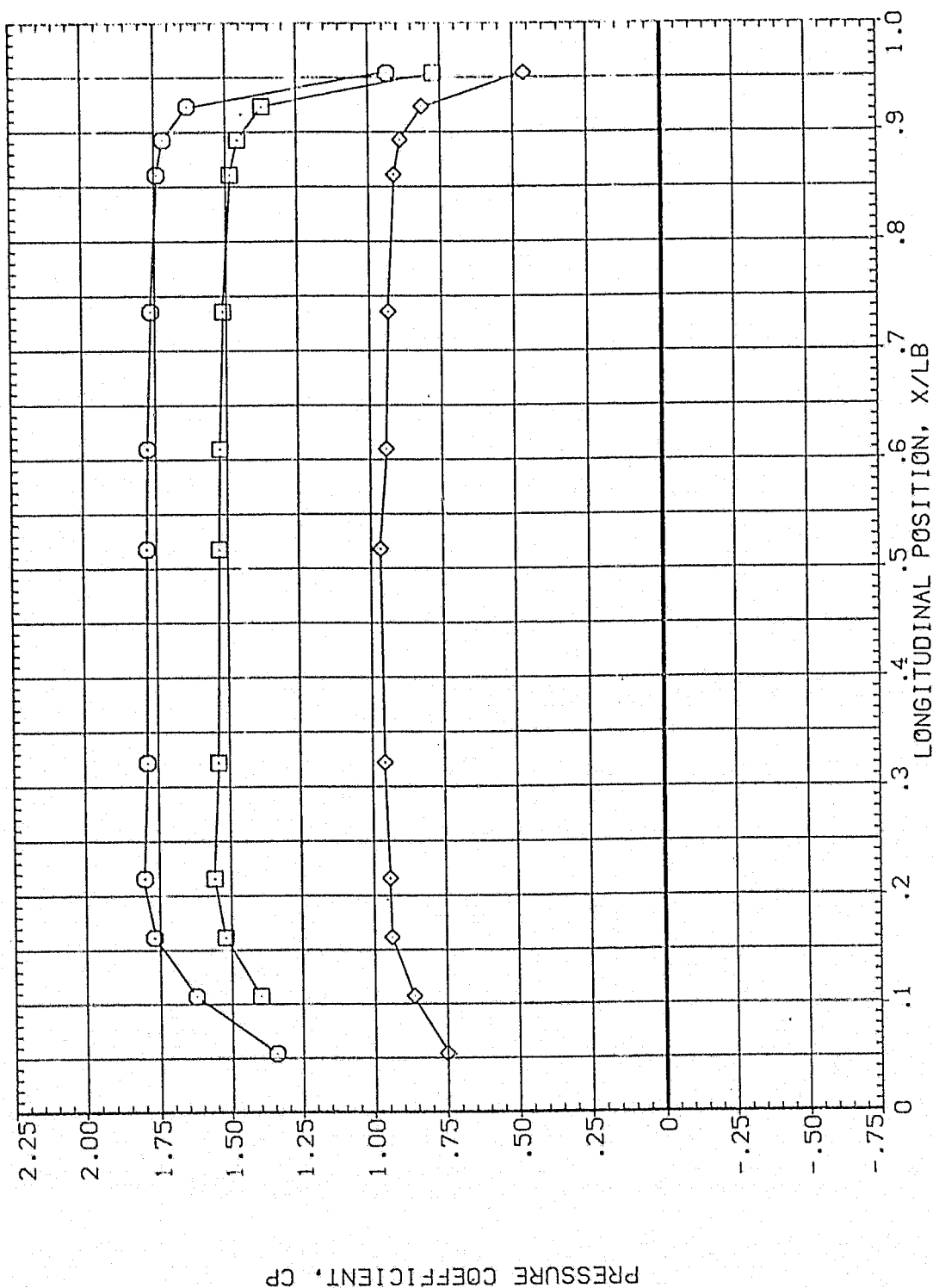


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	84.830	3.480	OUNT	2.000	90.000
◇	270.000					.000
◇	292.500					

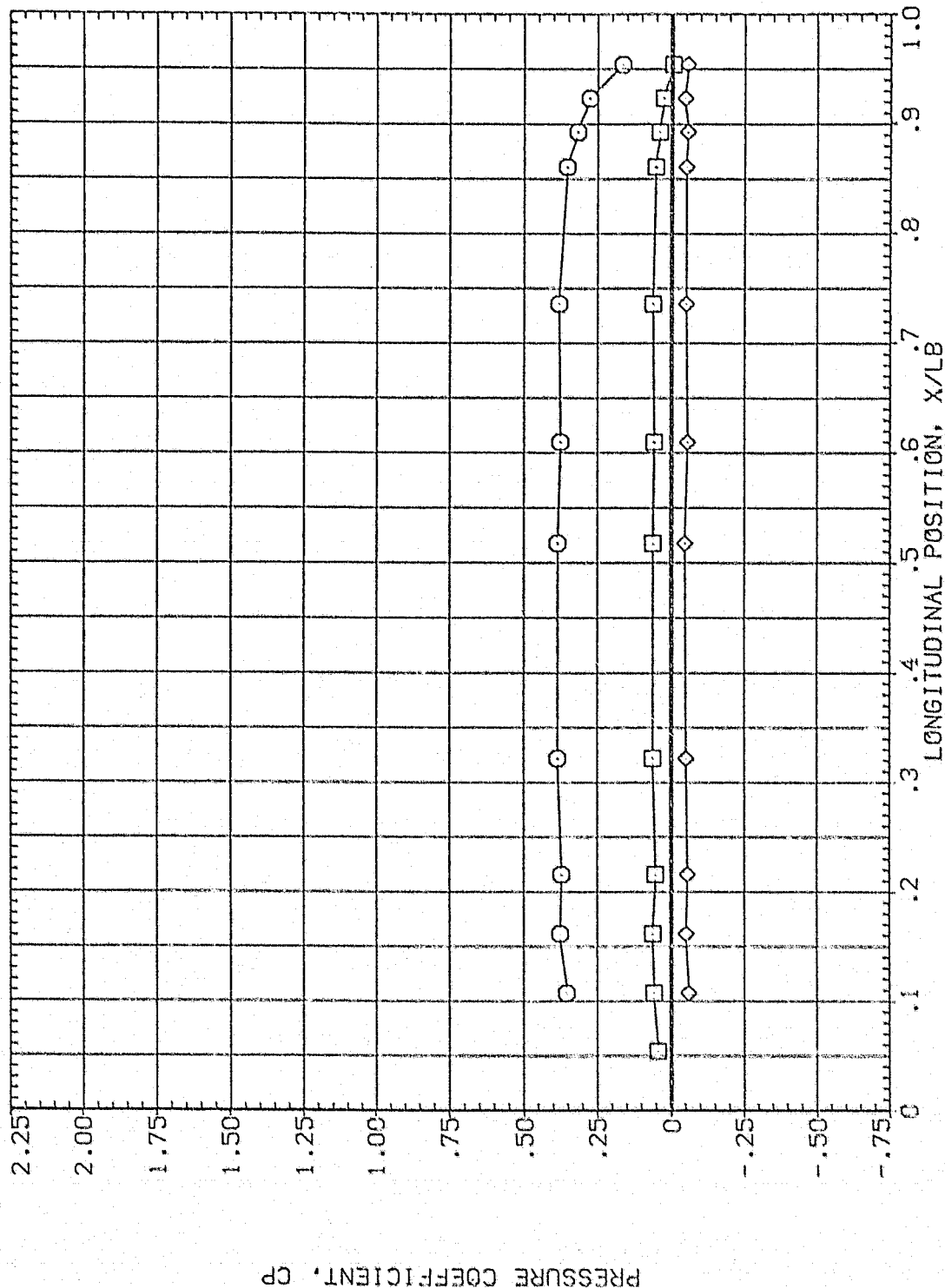


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	315.000	84.830	3.480	MOUNT	.000	PHI
□	326.000				2.000	.000
◇	346.000					

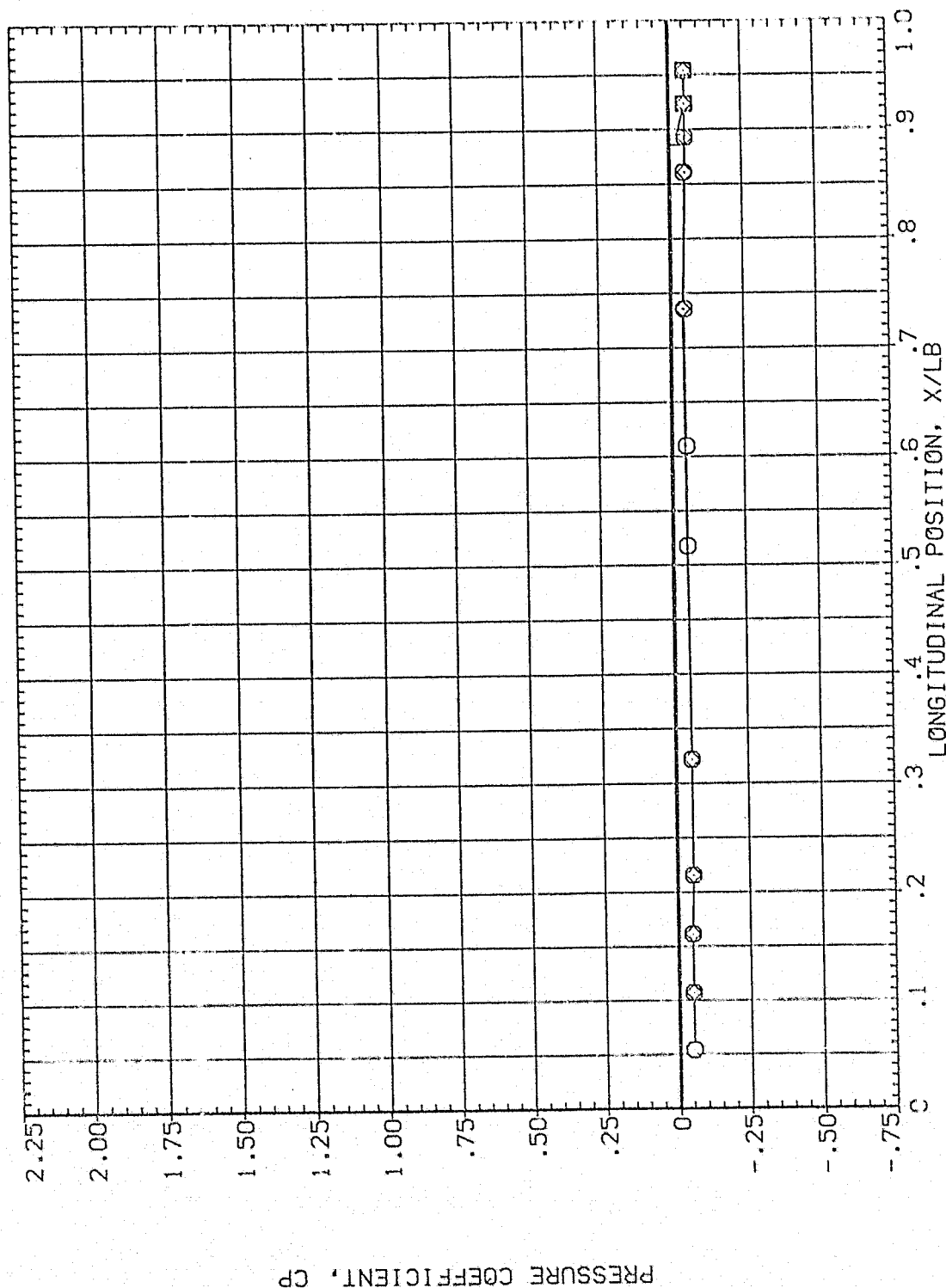


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL  
□  
◇

THETA  
.000  
14.000  
24.000

ALPHA  
87.830

MACH  
3.480

BETA  
HOUNT

PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI

90.000  
.000

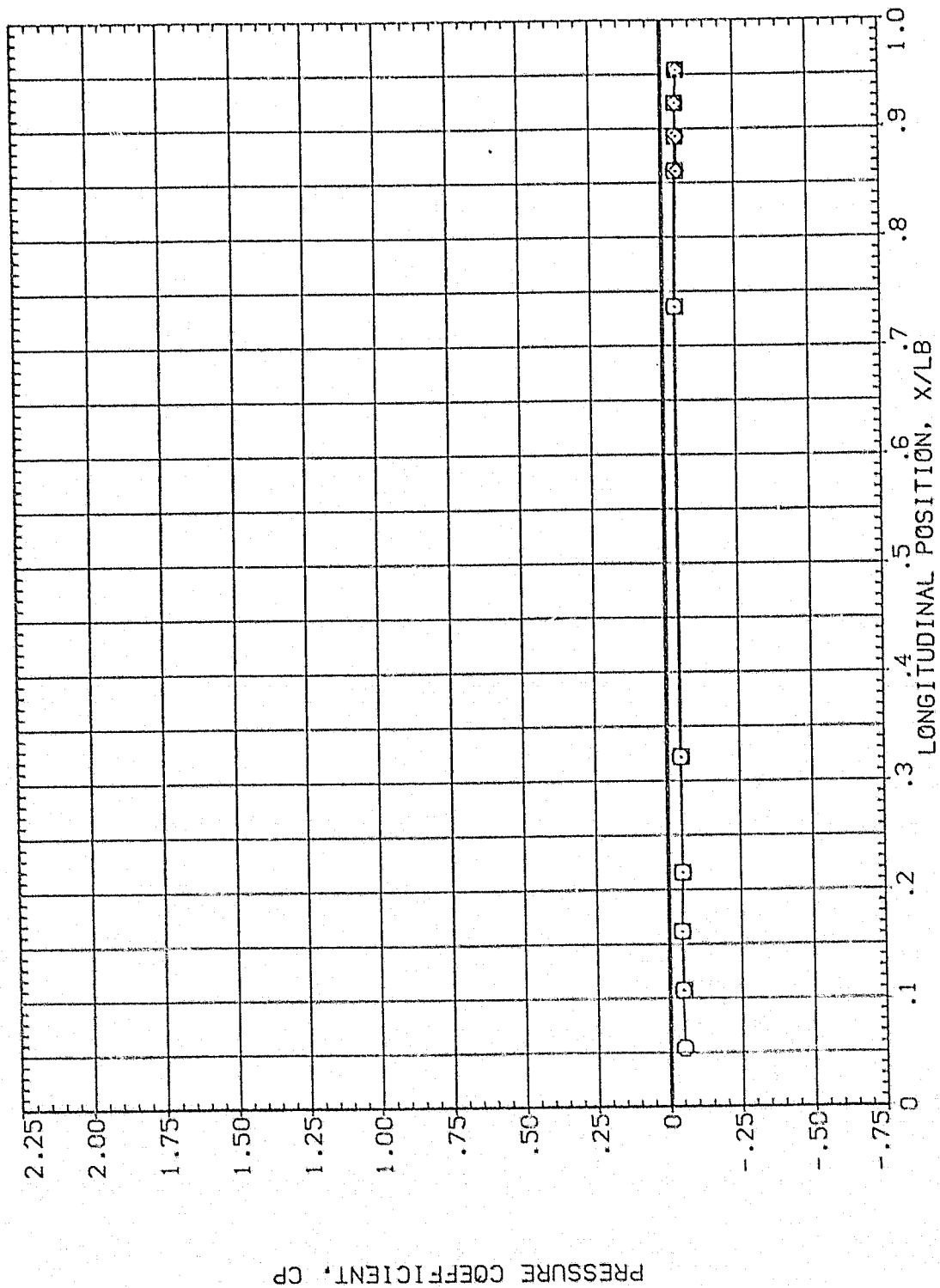


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
◇	45.000	87.830	3.480	0.000	OFFSET
□	67.500			2.000	PHI
◇	90.000				

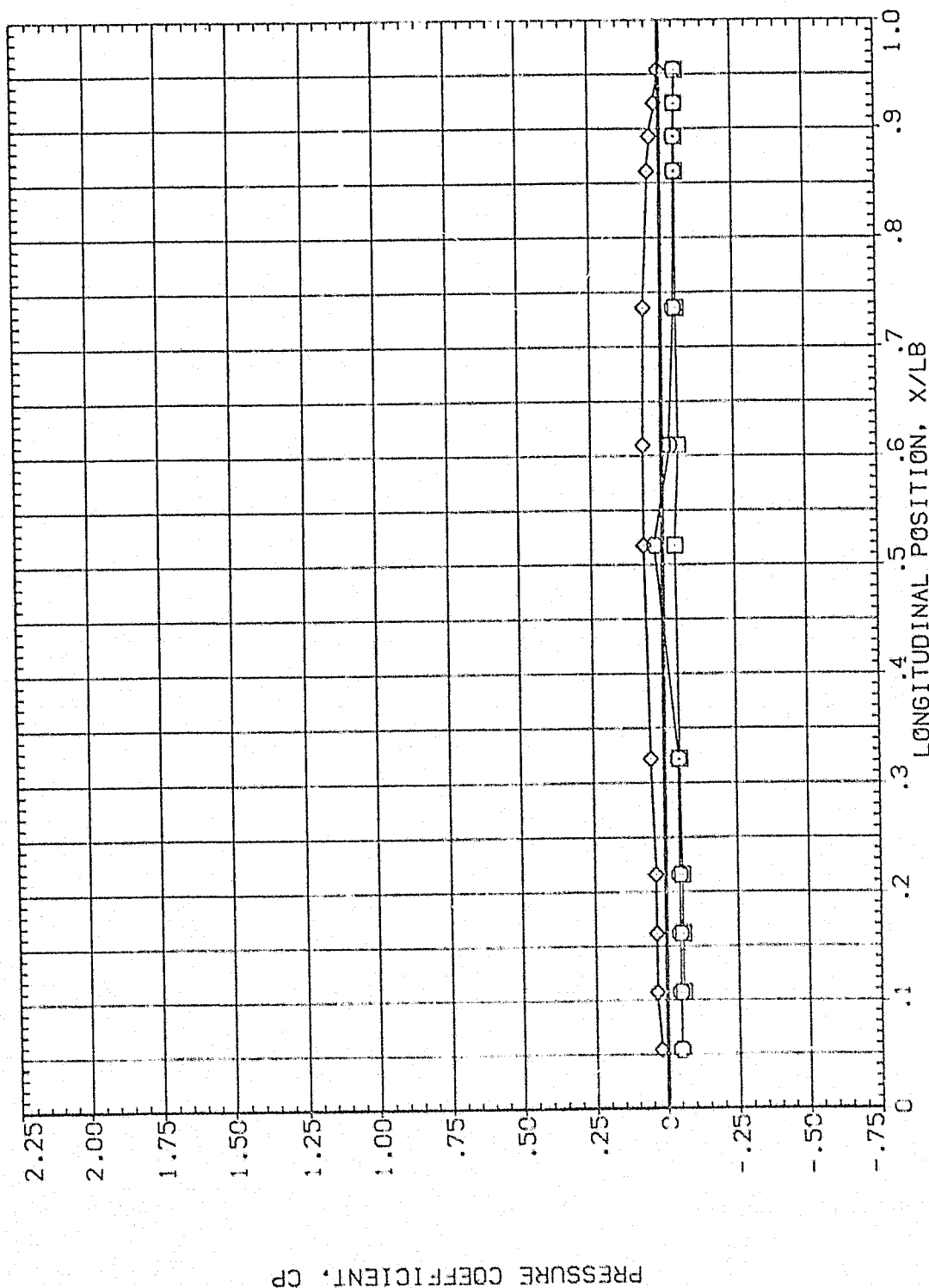


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA MOUNT	.000 OFFSET	90.000 PHI
○	112.500	87.830	3.480			
□	135.000					
◇	157.500					

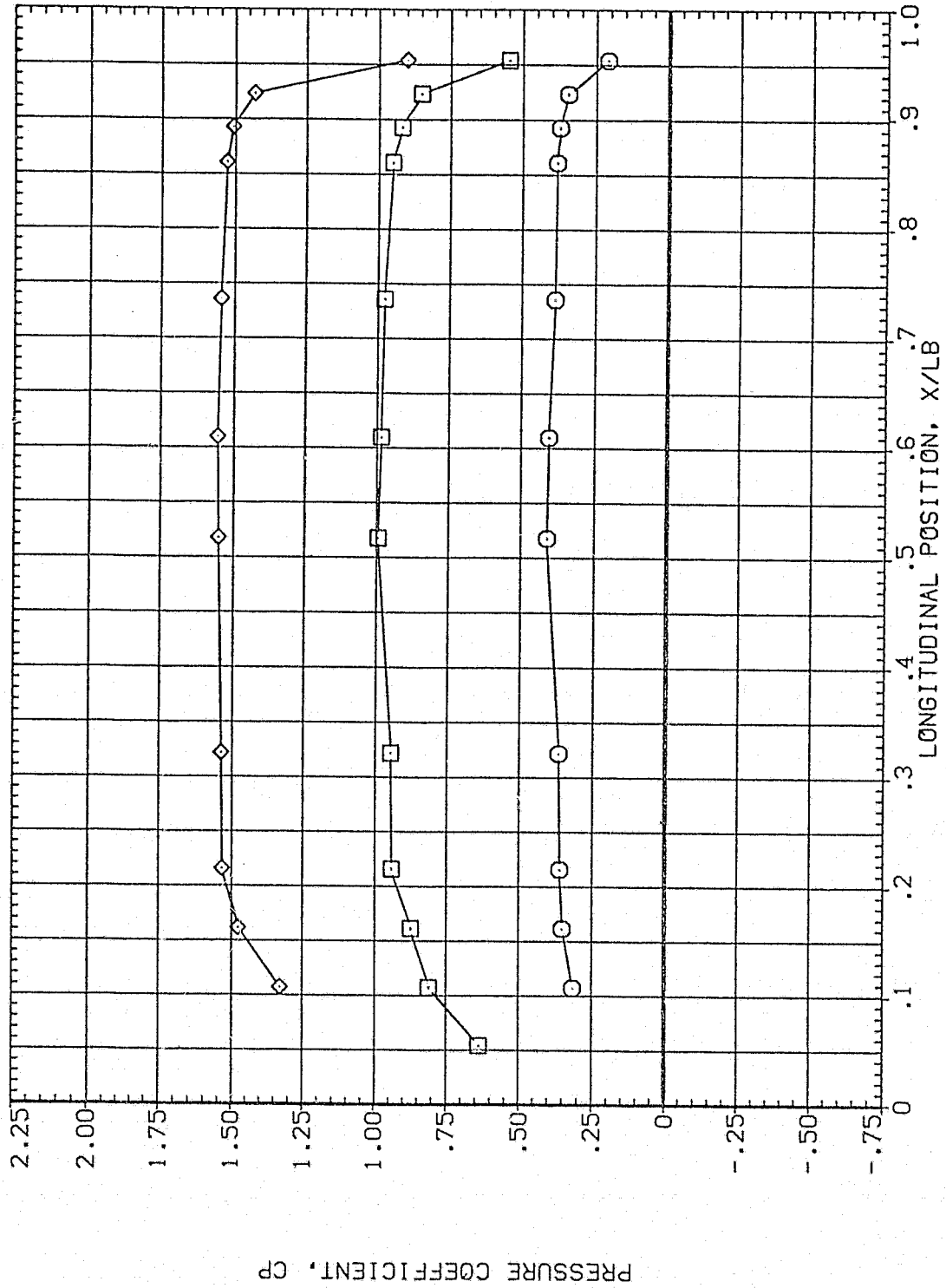


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	87.830	3.480	MOUNT	,000 OFFSET
□	202.500				2.000 PHI
◇	225.000				90.000

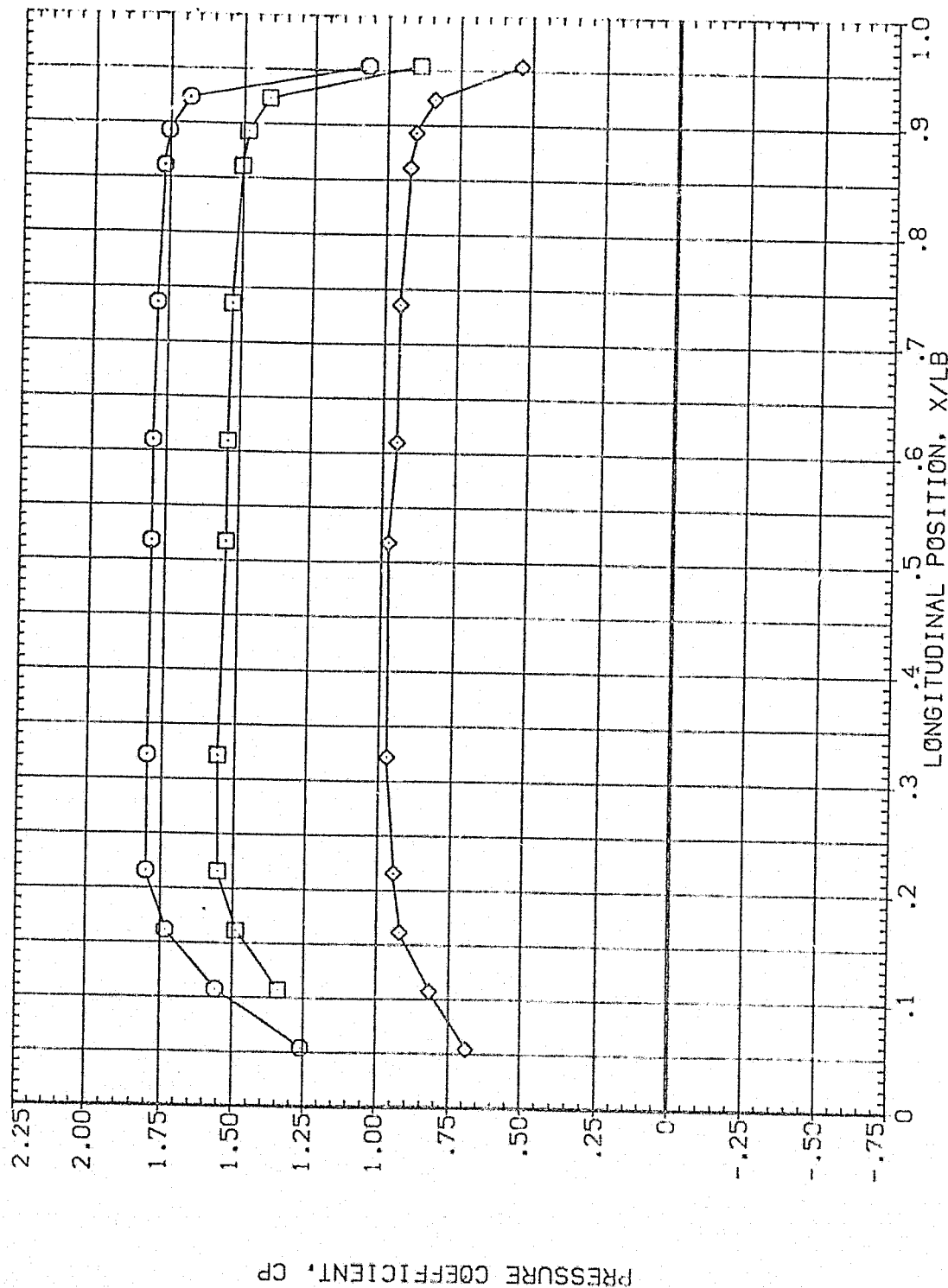


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL THETA ALPHA MACH  
 O 247.500 87.830 3.480  
 □ 270.000  
 ◇ 292.500

BETA HOUNT  
 .000 2.000  
 .000 90.000  
 PHI .000

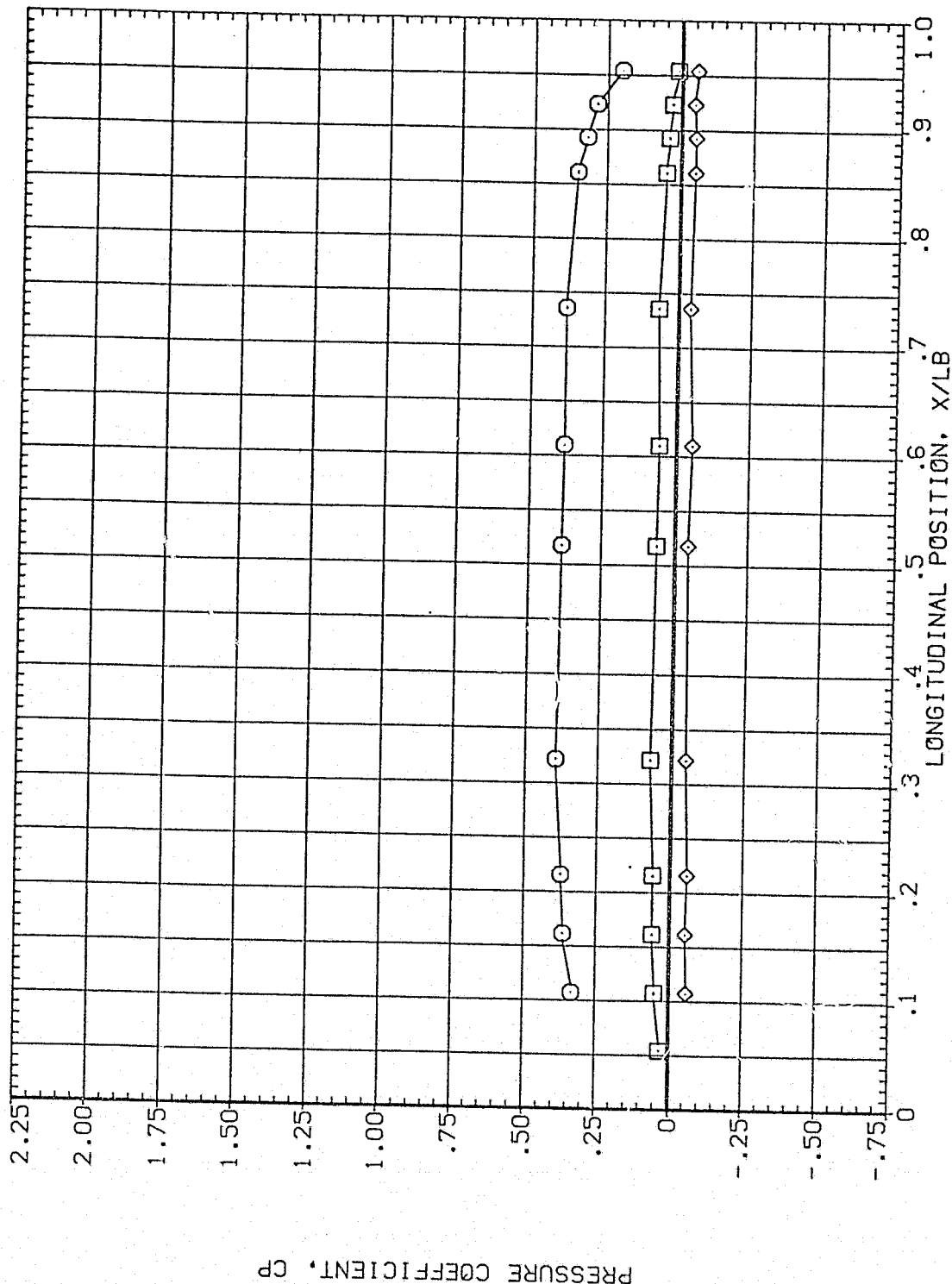


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES
○	315.000	87.830	3.480	BETA
□	326.000			MOUNT
◇	346.000			
				90.000
				2.000
				PHI
				.000

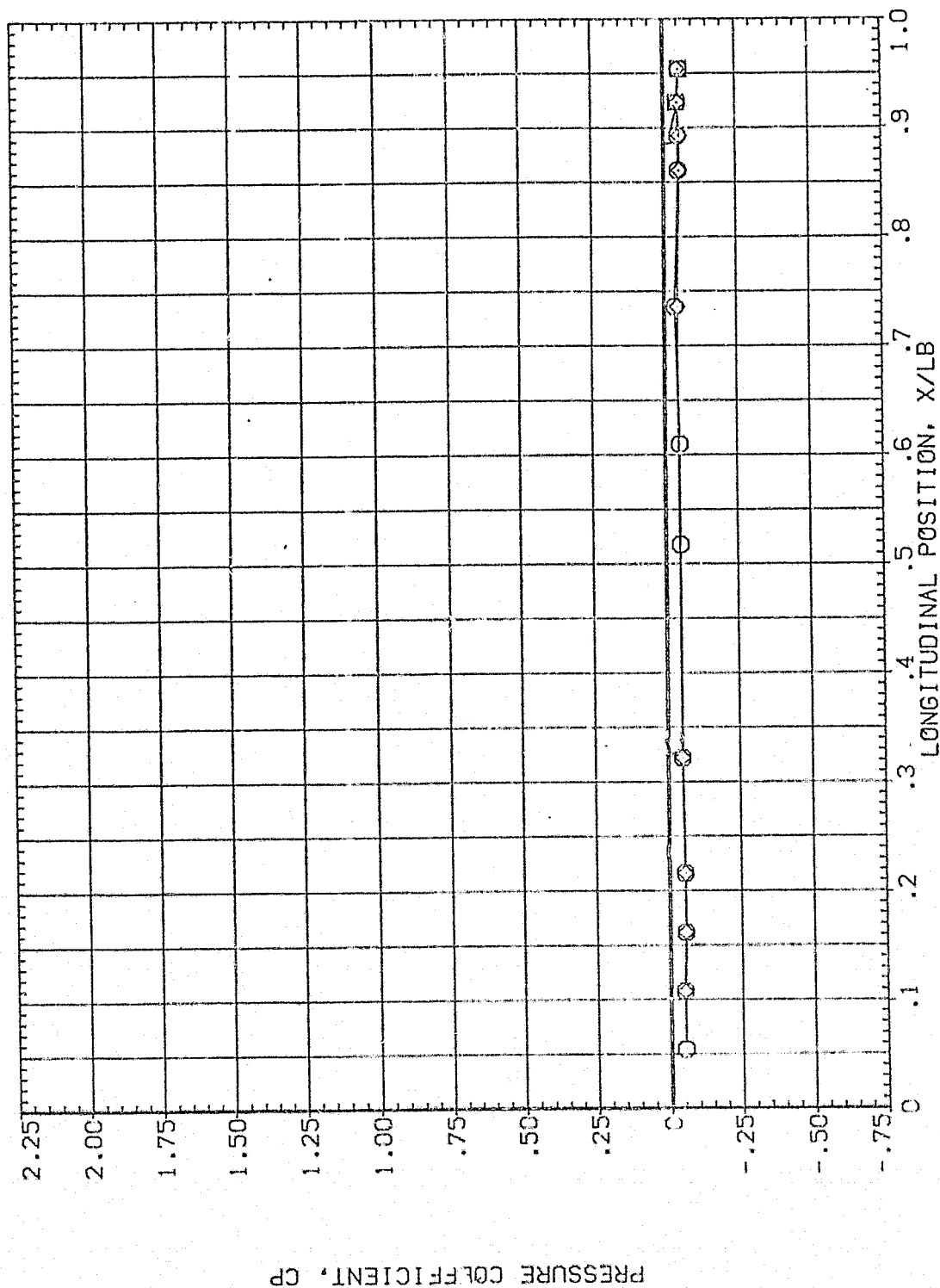


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL    THETA    ALPHA    MACH  
 ○    .000    89.830    3.480  
 □    14.000  
 ◇    24.000

PARAMETRIC VALUES  
 BETA    .000    OFFSET    90.000  
 MOUNT    2.000    PHI    .000

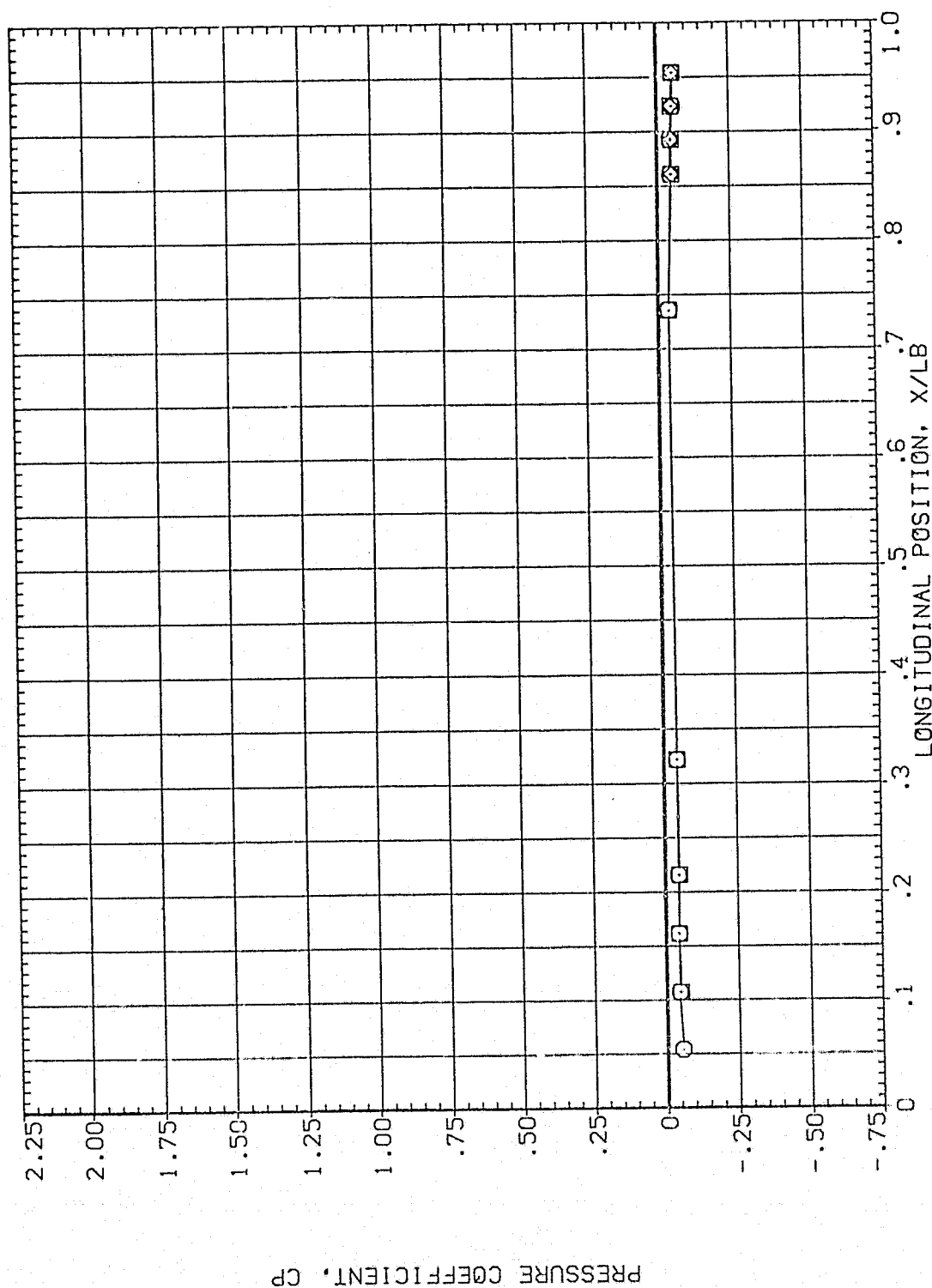


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
○  
□  
◇

THETA  
45.000  
67.500  
90.000

ALPHA  
89.830

MACH  
3.480

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI

90.000  
.000

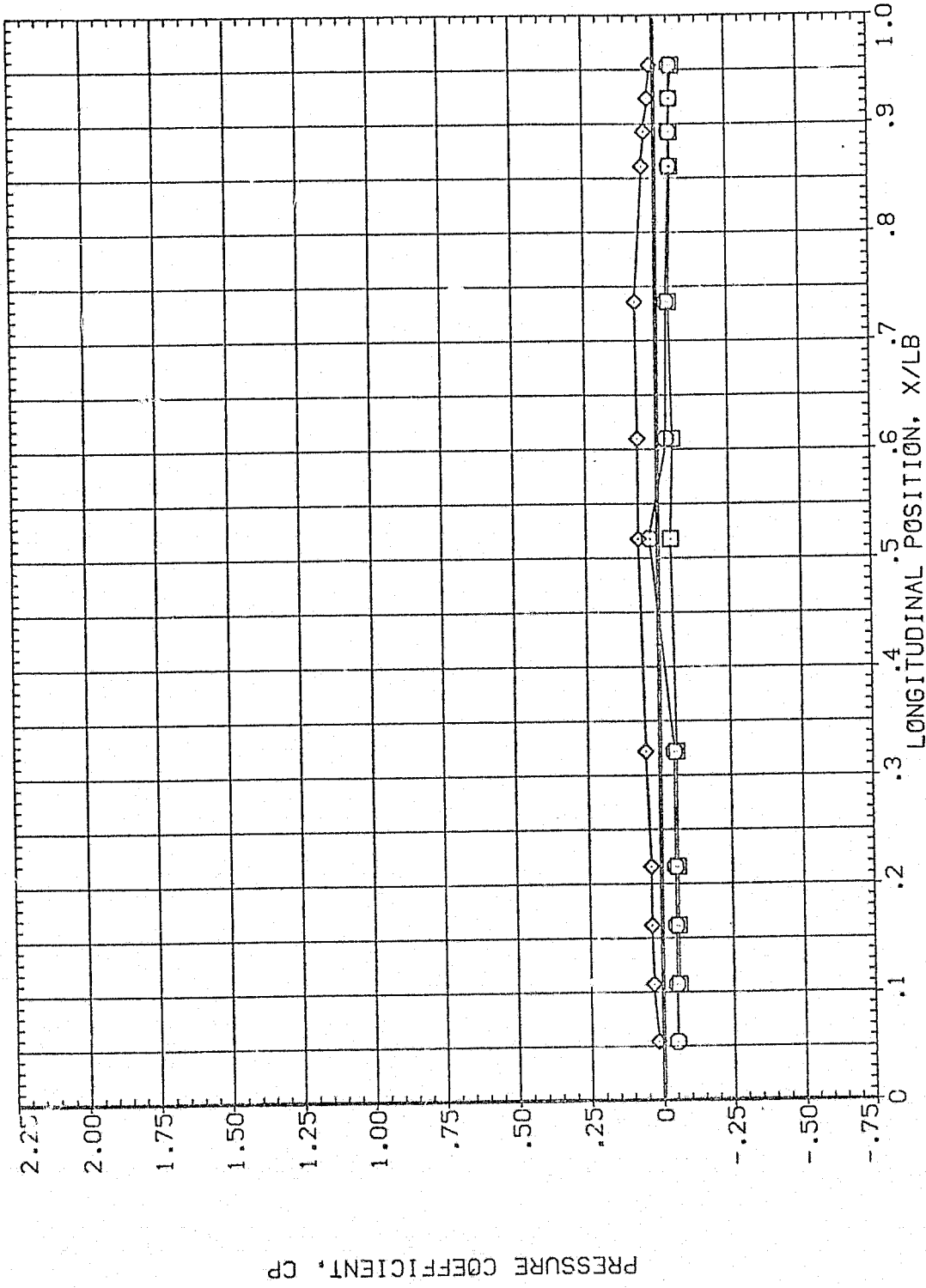


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

[P1A076]

SYMBOL

THEY

ALPHA

MACH

112.500  
135.000  
157.500

89.830

3.480

112  
O

112.500  
135.000  
157.500

BETA  
MOUNT

BETA  
MOUNT

PARAMETRIC VALUES	
.000	OFFSET
2.000	PHI

ARAME  
2.000  
3000

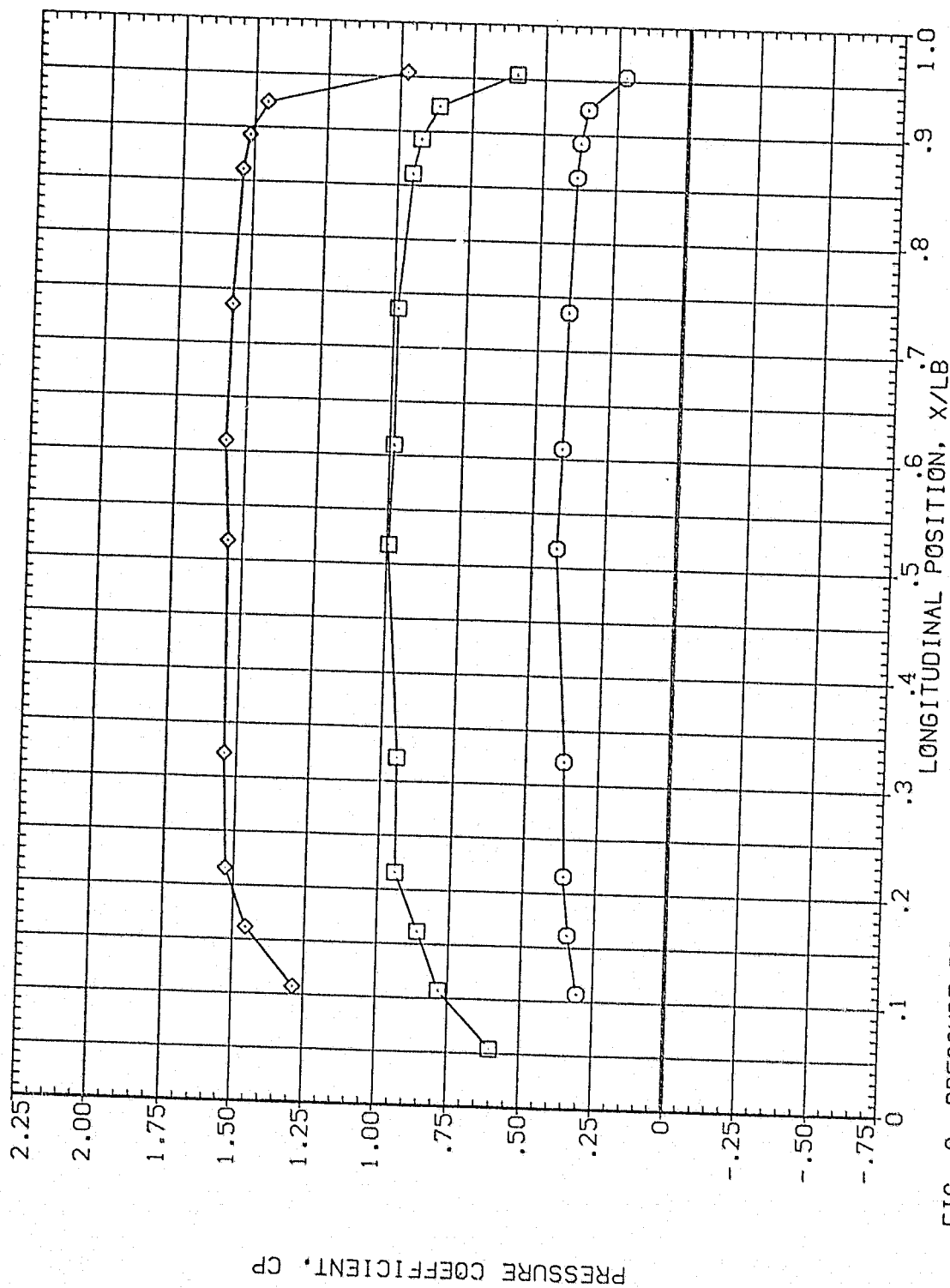
ARAME  
2.000  
3000

VALUES  
OFFSET  
PHI

VALUES  
OFFSET  
PHI

0000.00  
0000.00

0000.05  
0000.



LONGITUDINAL POSITION, X/LB

FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL    THETA    ALPHA    MACH  
 ○    180.000    89.830    3.480  
 □    202.500  
 ◇    225.000

PARAMETRIC VALUES  
 .000    OFFSET    90.000  
 2.000    PHI    .000

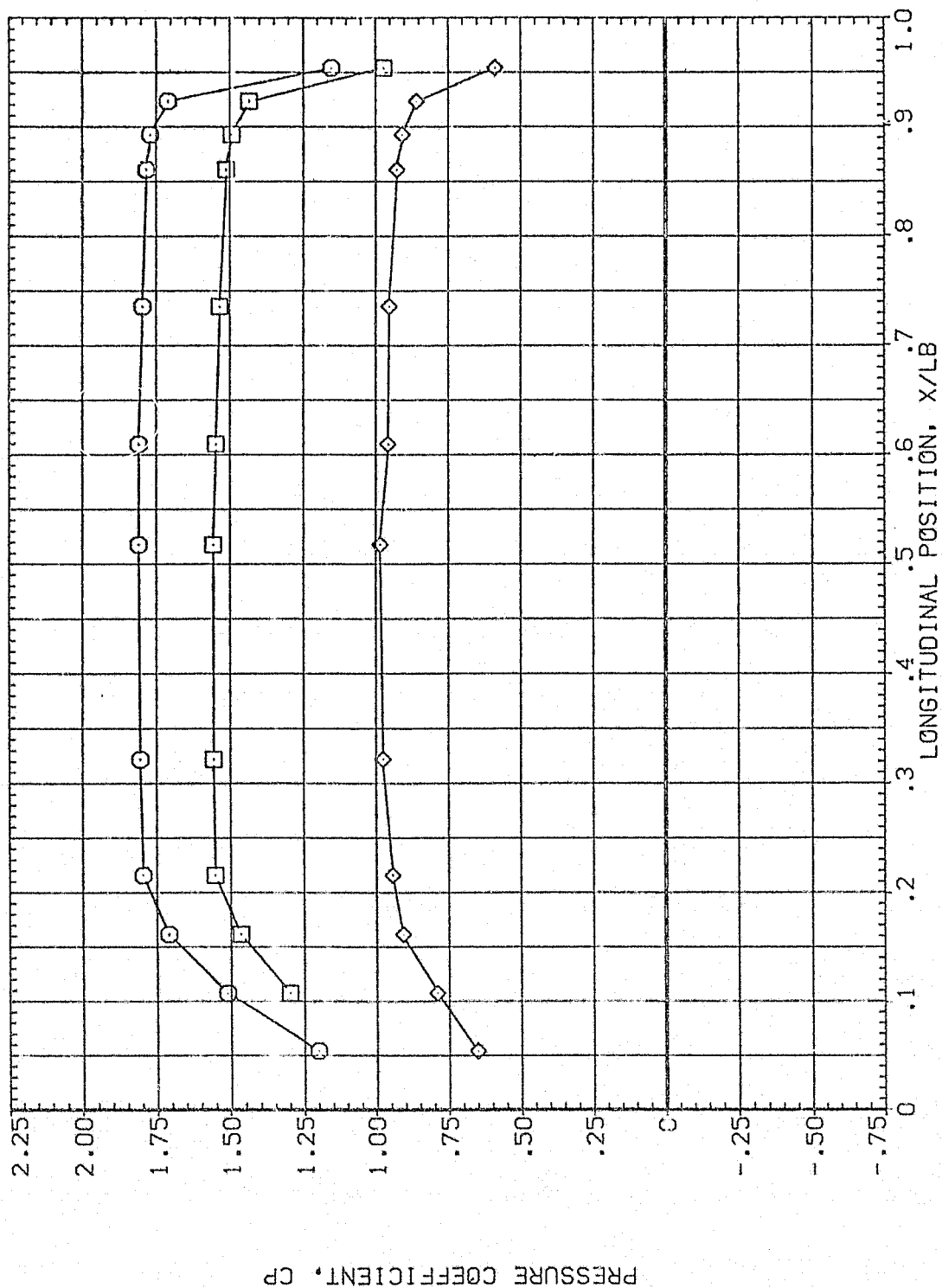


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	89.830	3.480	HOUNT	.000	90.000
□	270.000				2.000	.000
◇	292.500					

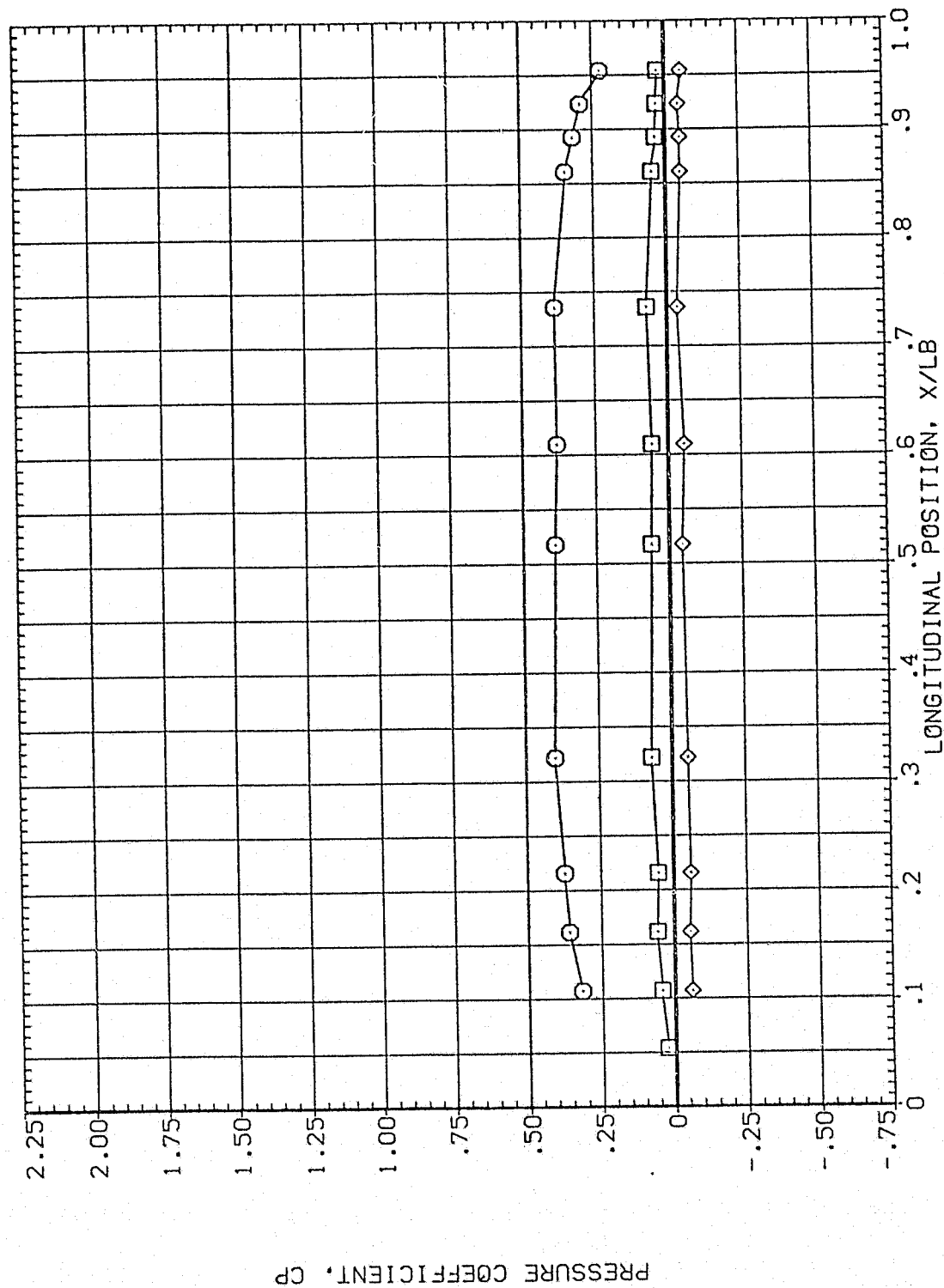


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

CP1A0763

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL THETA ALPHA MACH  
 315.000 89.830 3.480  
 326.000  
 346.000

PARAMETRIC VALUES  
 BETA .000 OFFSET 90.000  
 MOUNT 2.000 PHI .000

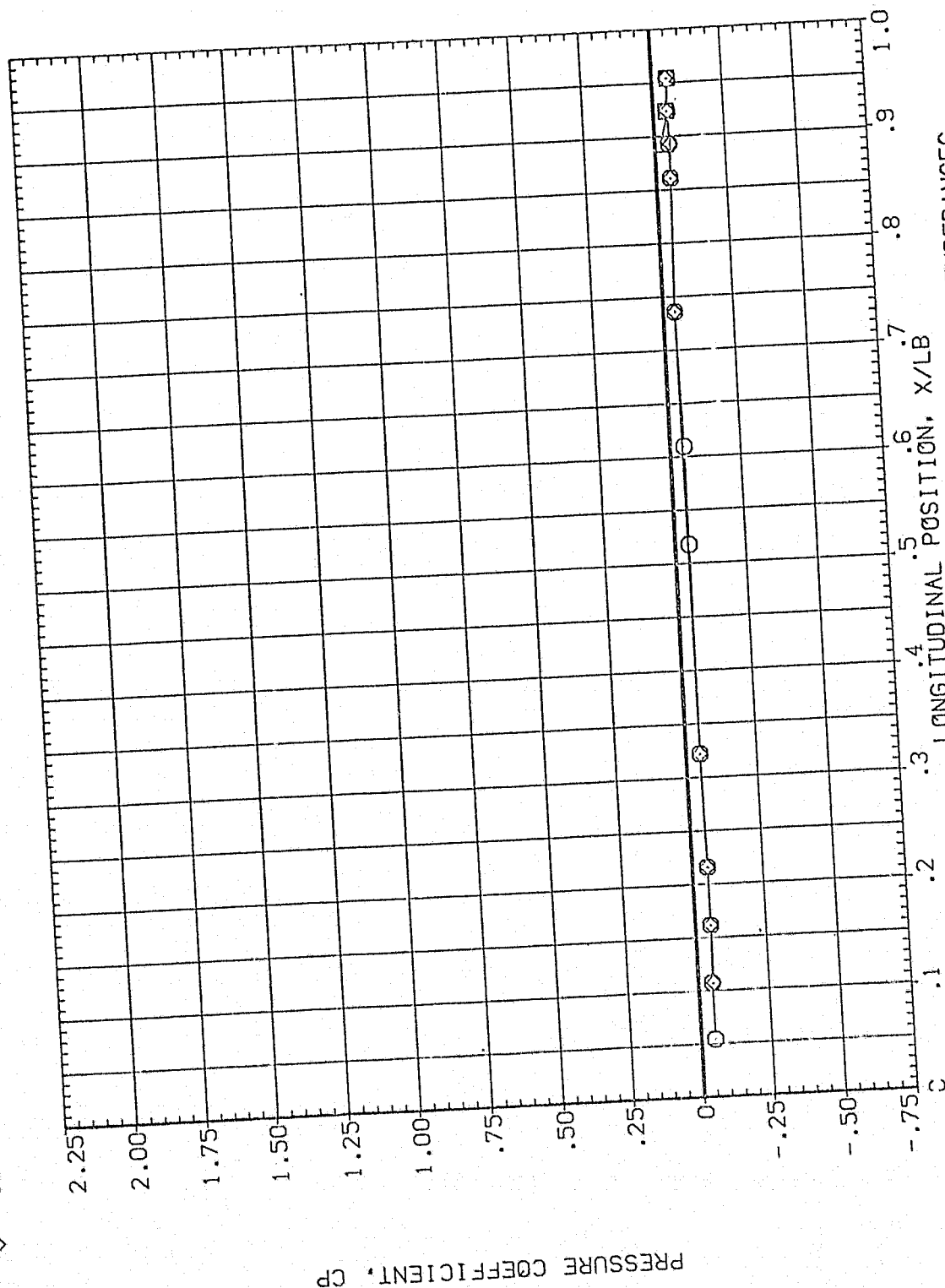


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL THETA ALPHA MACH  
 □ .000 91.863 3.480  
 ○ 14.000  
 ◇ 24.000

PARAMETRIC VALUES  
 BETA .000 OFFSET 90.000  
 MOUNT 2.000 PHI .000

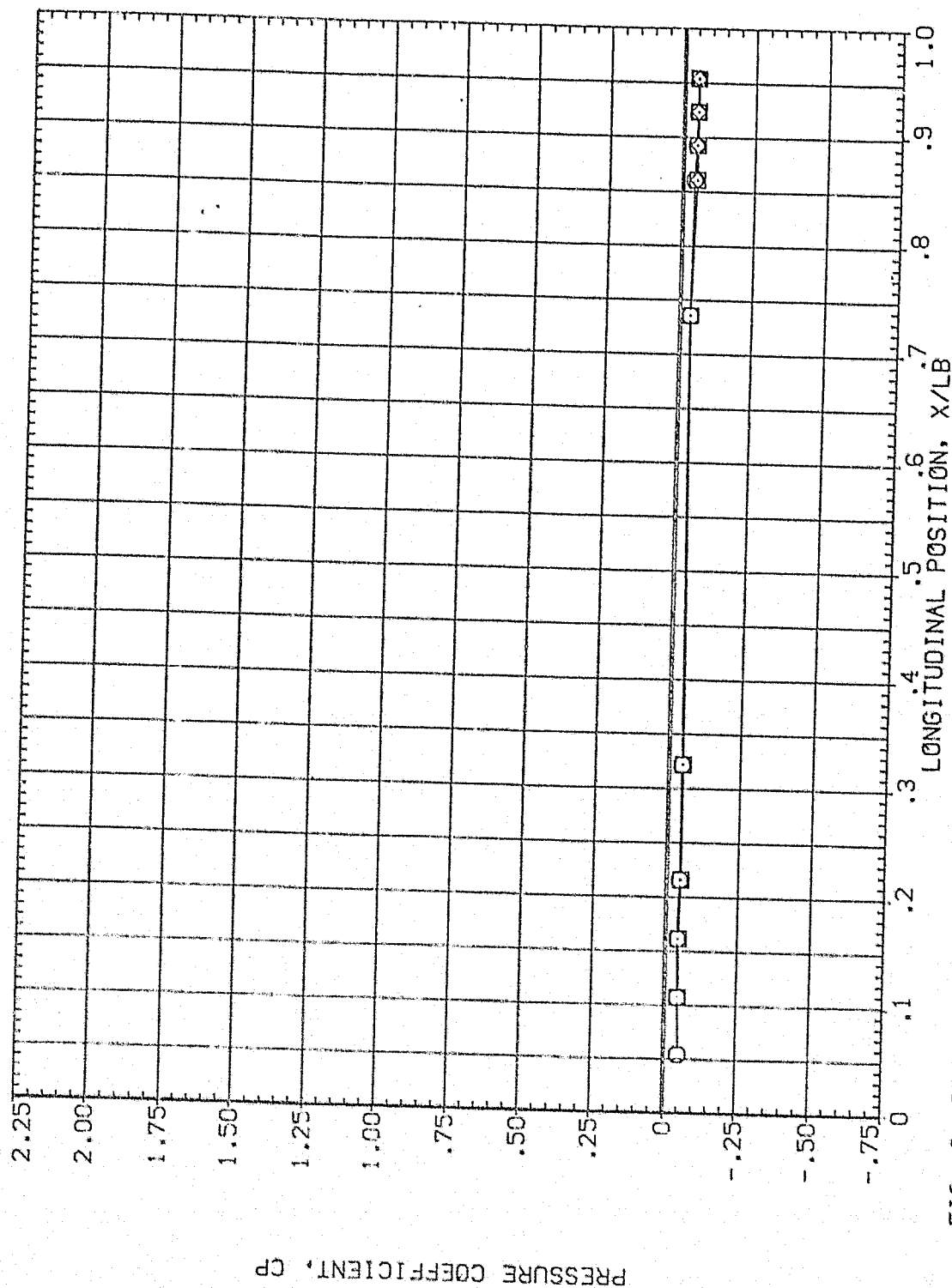


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 ○  
 □  
 ◇

THETA 45.000  
 67.500  
 90.000

ALPHA 91.850

MACH 3.480

PARAMETRIC VALUES  
 .000  
 .000  
 2.000  
 .000  
 .000

90.000  
 .000

BETA  
 MOUNT

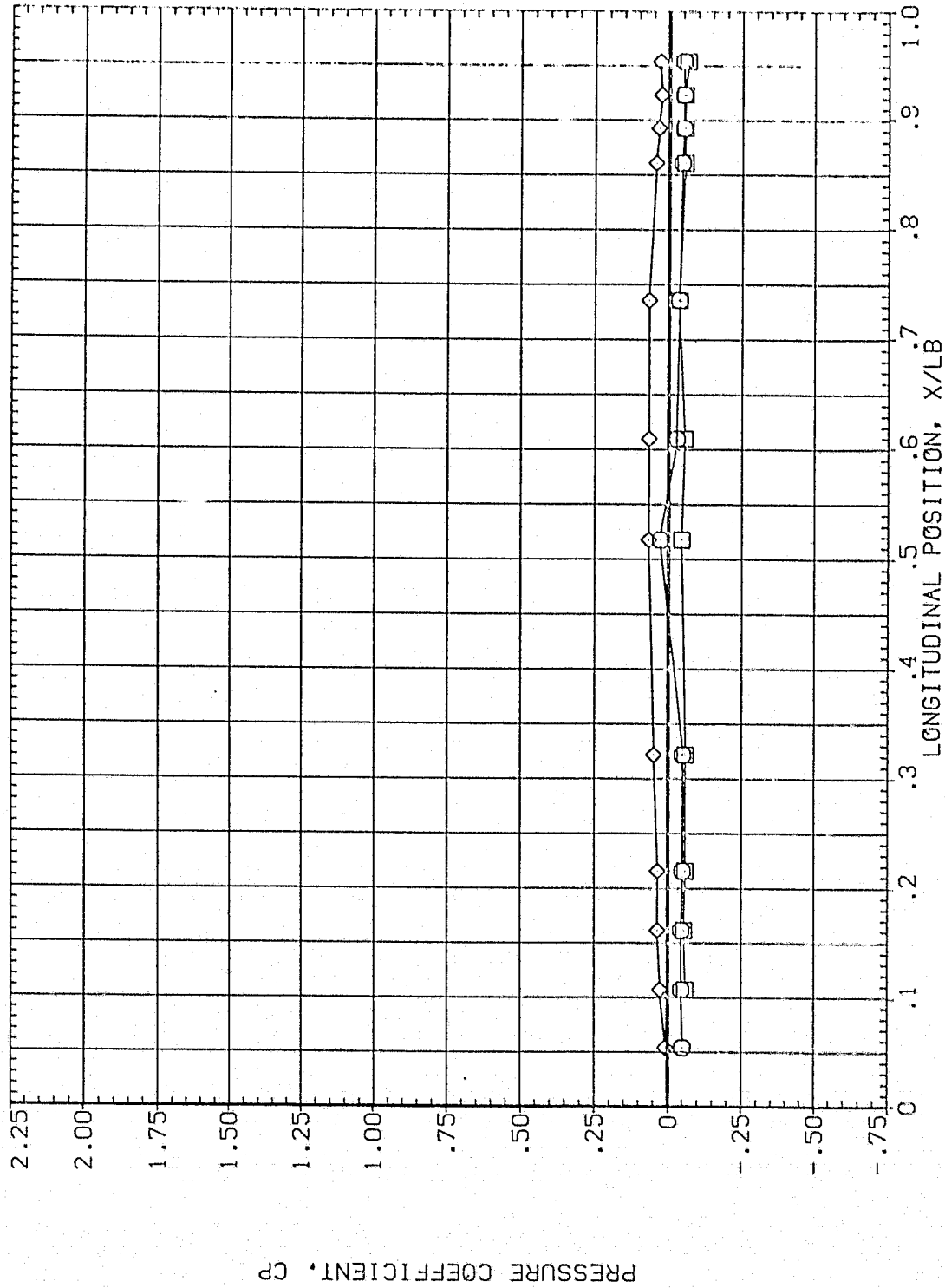


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL	PARAMETRIC VALUES		
	THETA	ALPHA	MACH
○	112.500	91.850	3.480
□	135.000		
◇	157.500		
		BETA	90.000
		HOUNT	.000
		OFFSET	.000
		PHI	.000

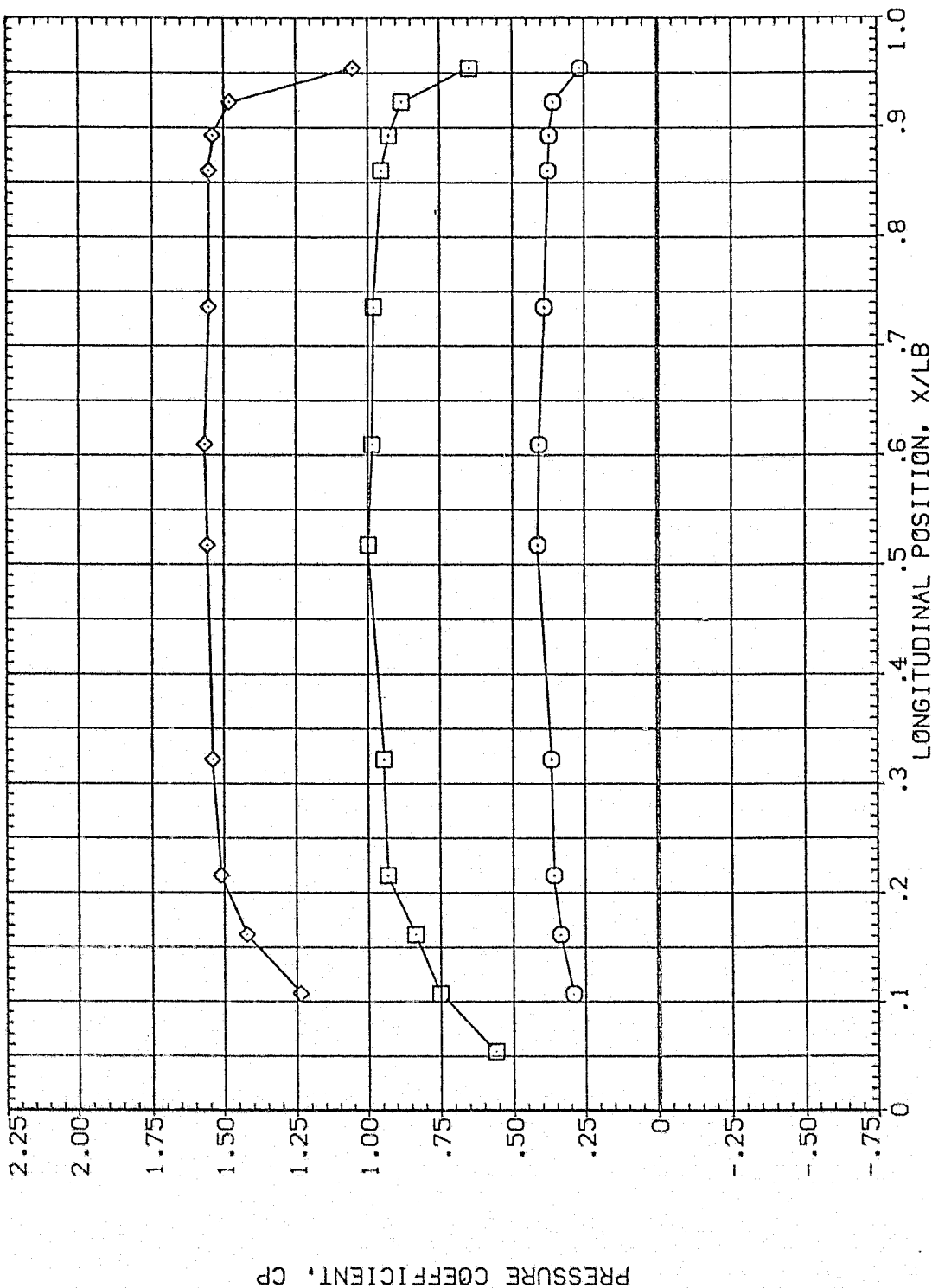


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(P1A077)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
PHI 90.000  
OFFSET .000

THETA ALPHA MACH  
180.000 91.850 3.480  
202.500  
225.000

SYMBOL  
○  
□  
◇

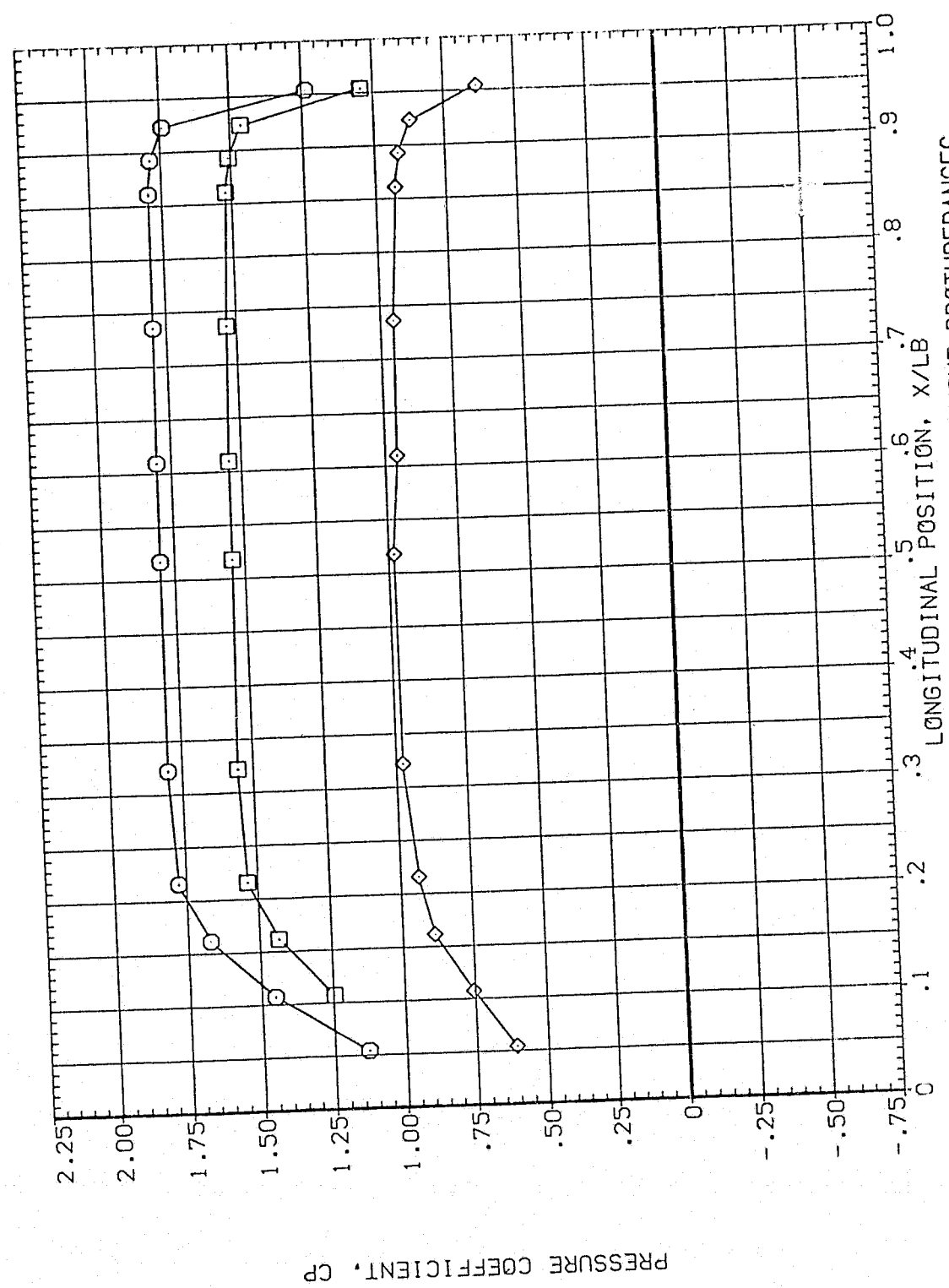


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL THETA ALPHA MACH  
 ○ 247.500 91.850 3.480  
 □ 270.000  
 ◇ 292.500

PARAMETRIC VALUES  
 BETA .000 OFFSET 90.000  
 MOUNT 2.000 PHI .000

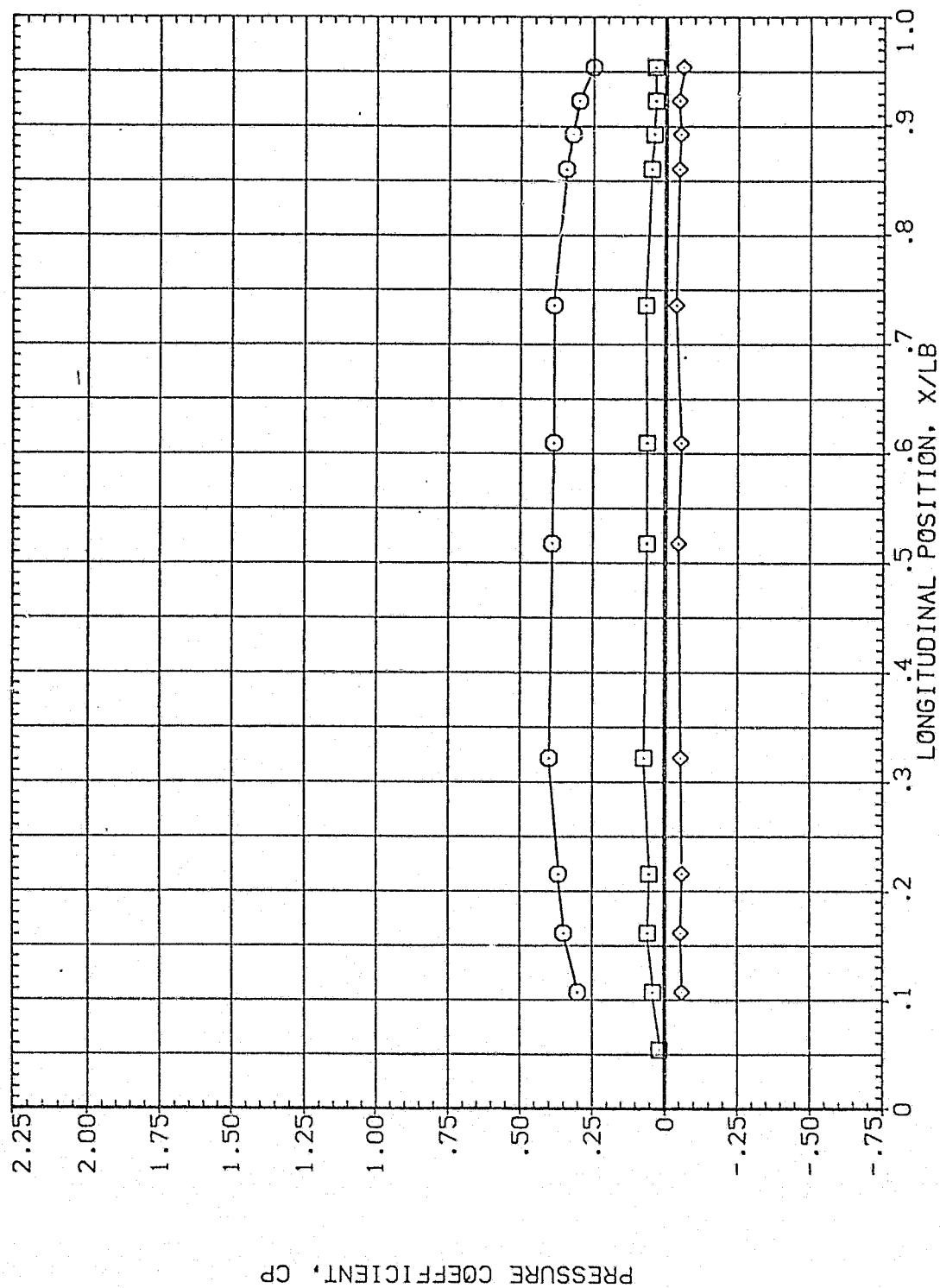


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 595 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	91.850	3.480	MOUNT	.000 OFFSET
□	326.000				2.000 PHI
◇	346.000				90.000
					.000

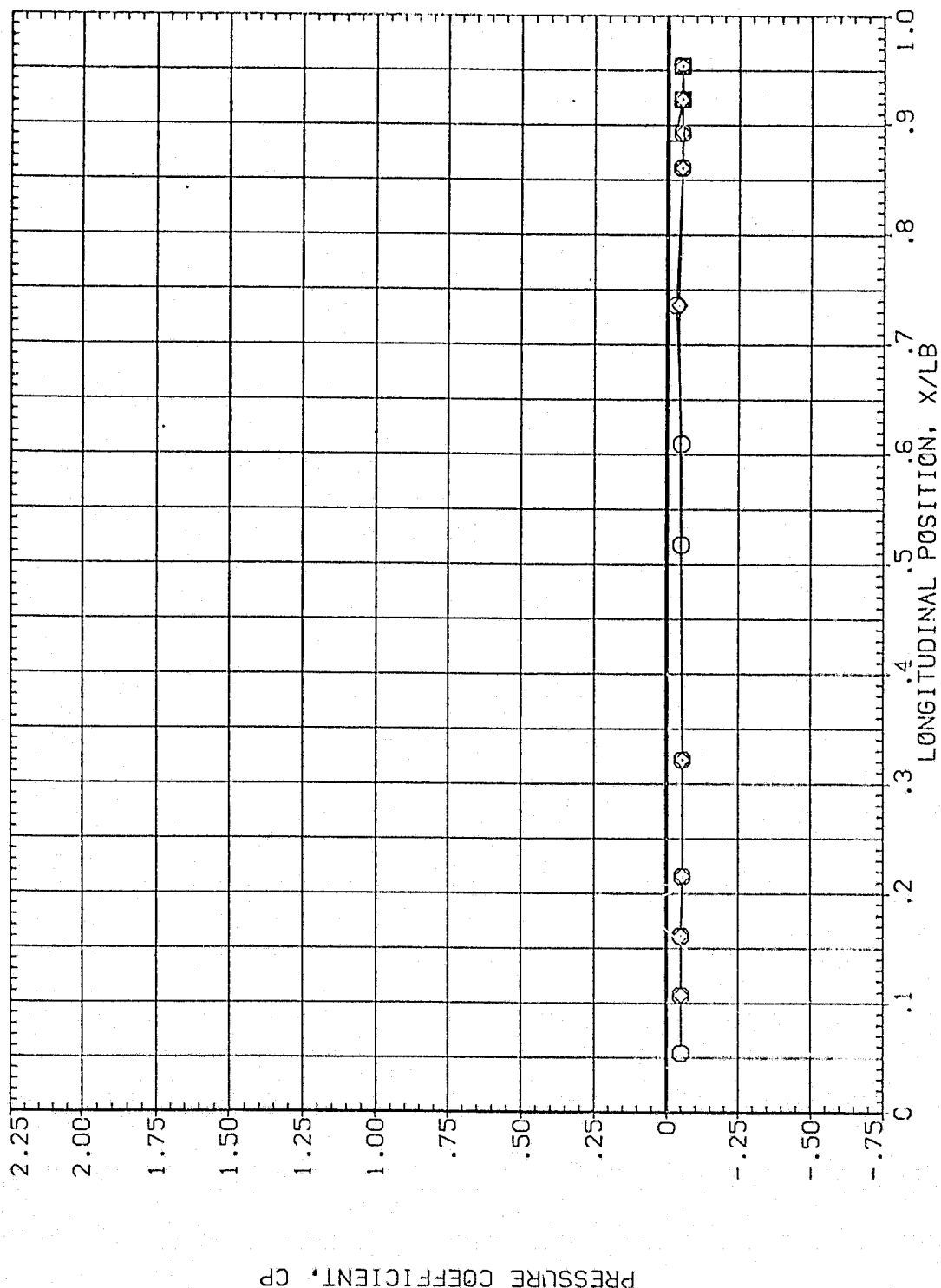


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.000	94.850	3.480	HOUNT	.000
□	14.000			OFFSET	90.000
◇	24.000			PHI	.000

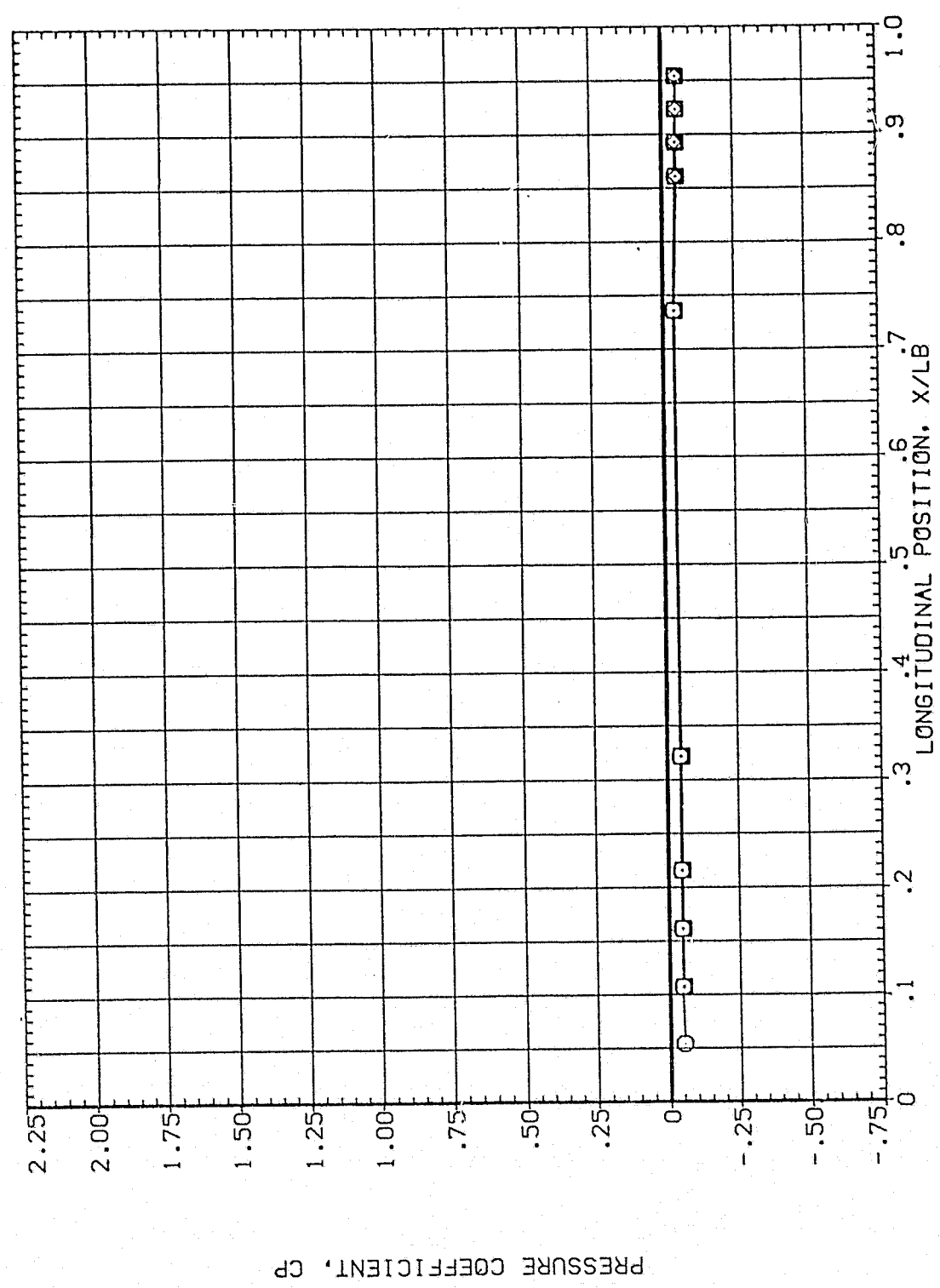


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	94.850	3.480	MOUNT	.000 OFFSET
□	67.500				2.000 PHI
◇	90.000				90.000

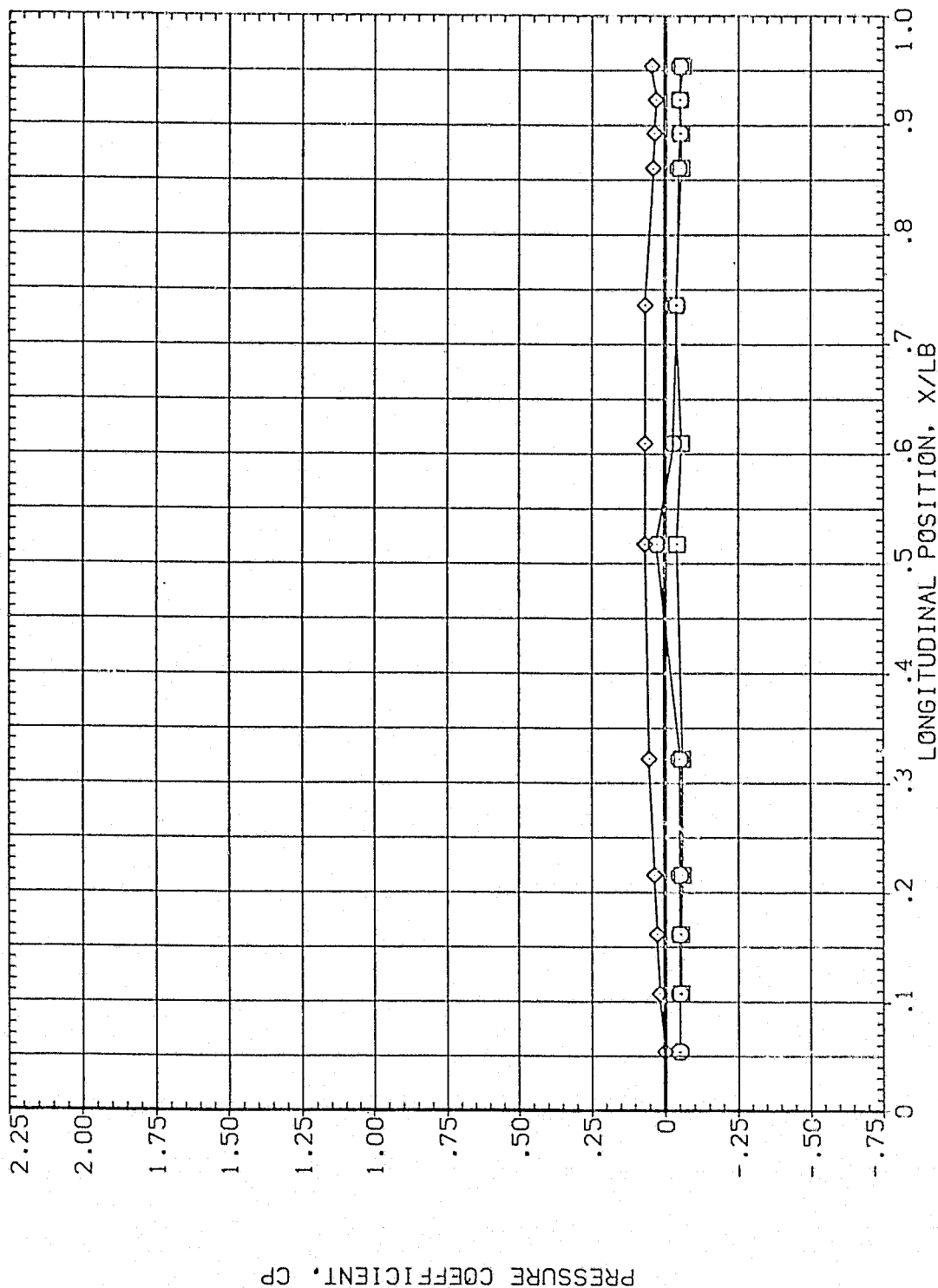


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	112.500	94.850	3.480	Mount	Phi	.000
□	135.000					
◇	157.500					

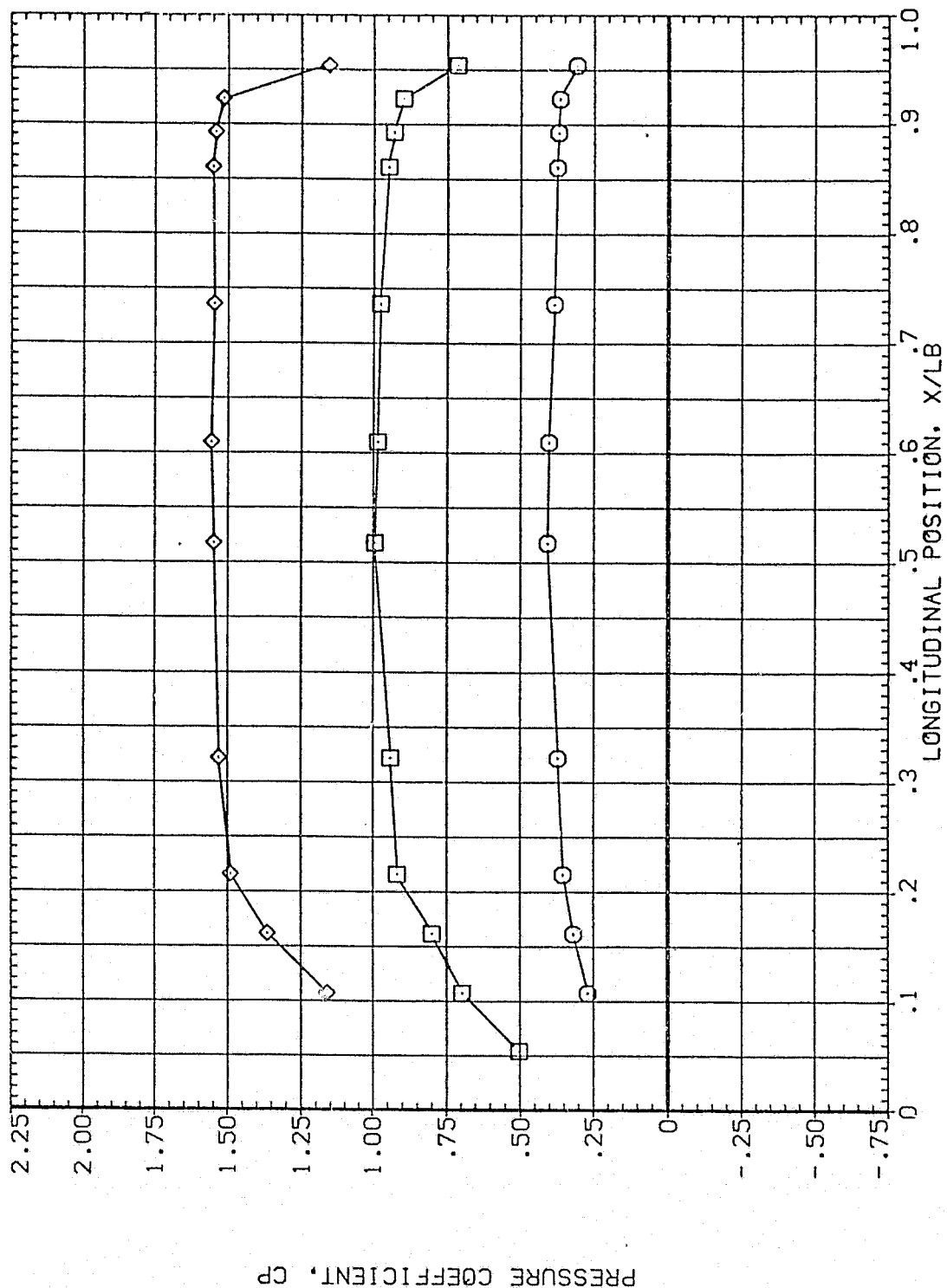


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	94.850	3.480	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				.000

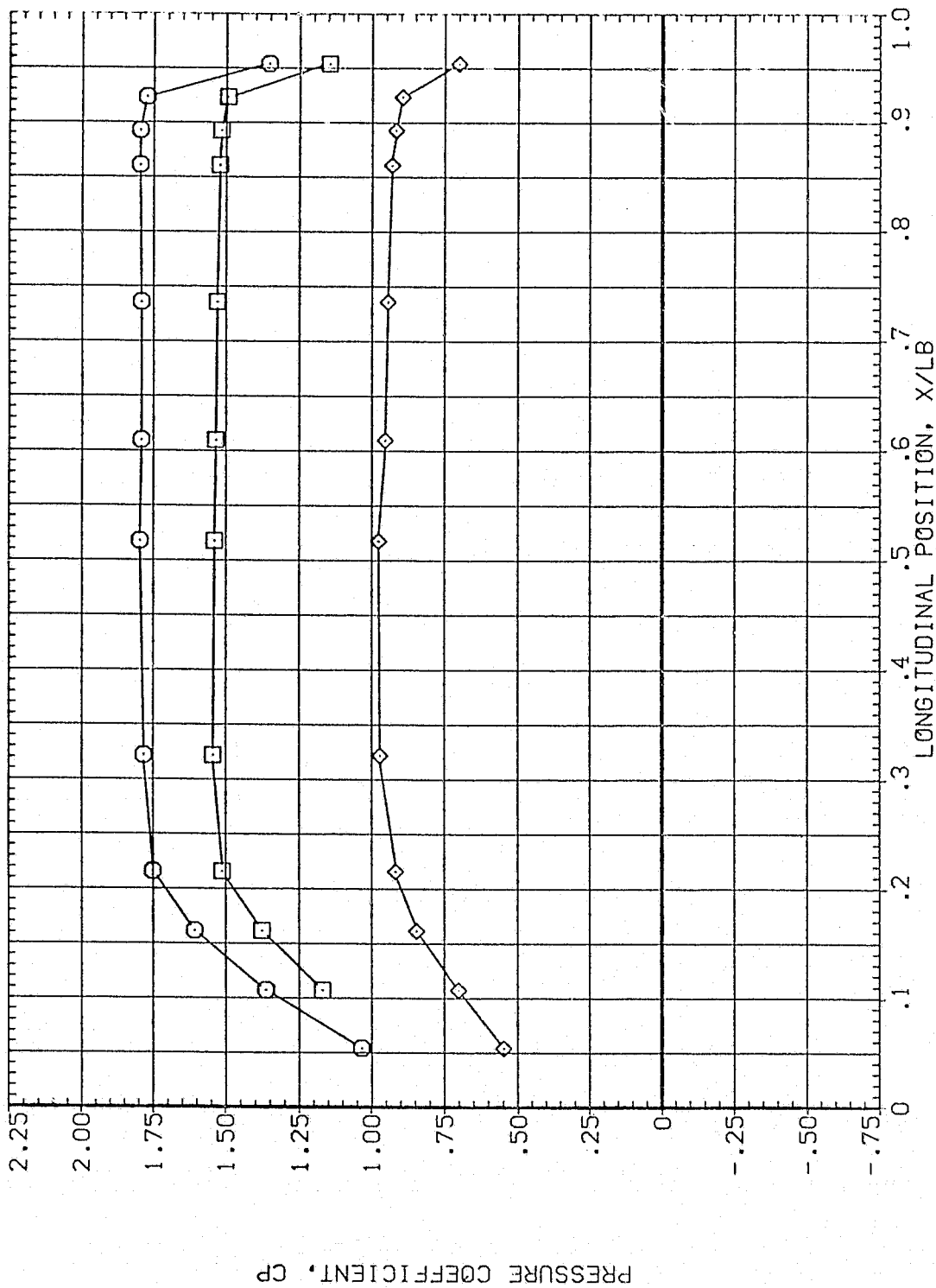


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	THETA		ALPHA		MACH		BETA		PARAMETRIC VALUES	
	247.500	270.000	94.850	94.850	3.480	3.480	0.000	0.000	0.000	0.000
○	247.500	270.000	94.850	94.850	3.480	3.480	0.000	0.000	0.000	0.000
□	247.500	270.000	94.850	94.850	3.480	3.480	0.000	0.000	0.000	0.000
◇	247.500	270.000	94.850	94.850	3.480	3.480	0.000	0.000	0.000	0.000

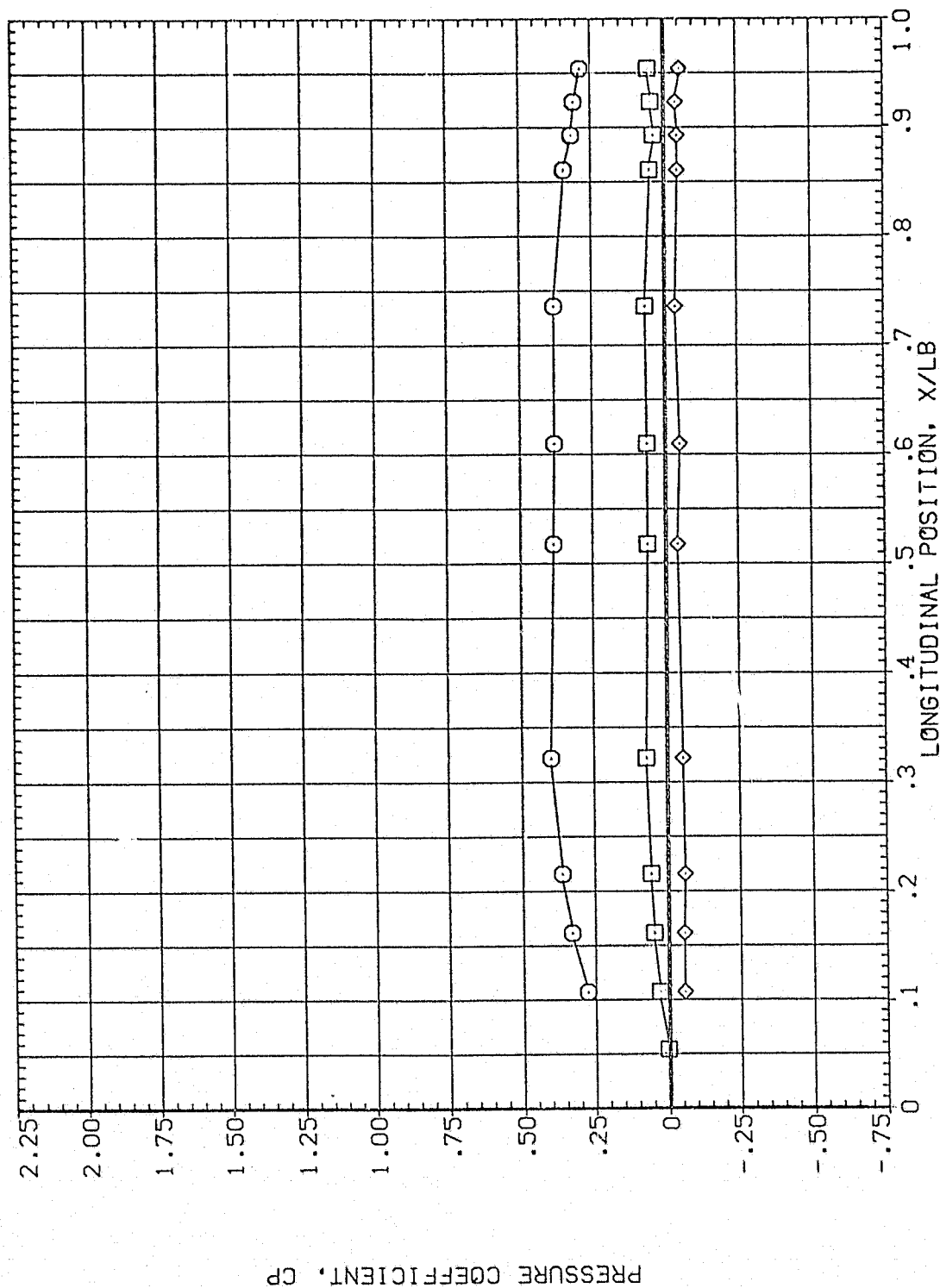


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	315.000	326.000	94.850	3.480	BETA	MCUNT	.000	OFFSET	90.000	.000
○							2.000	PHI		
□										
◇										

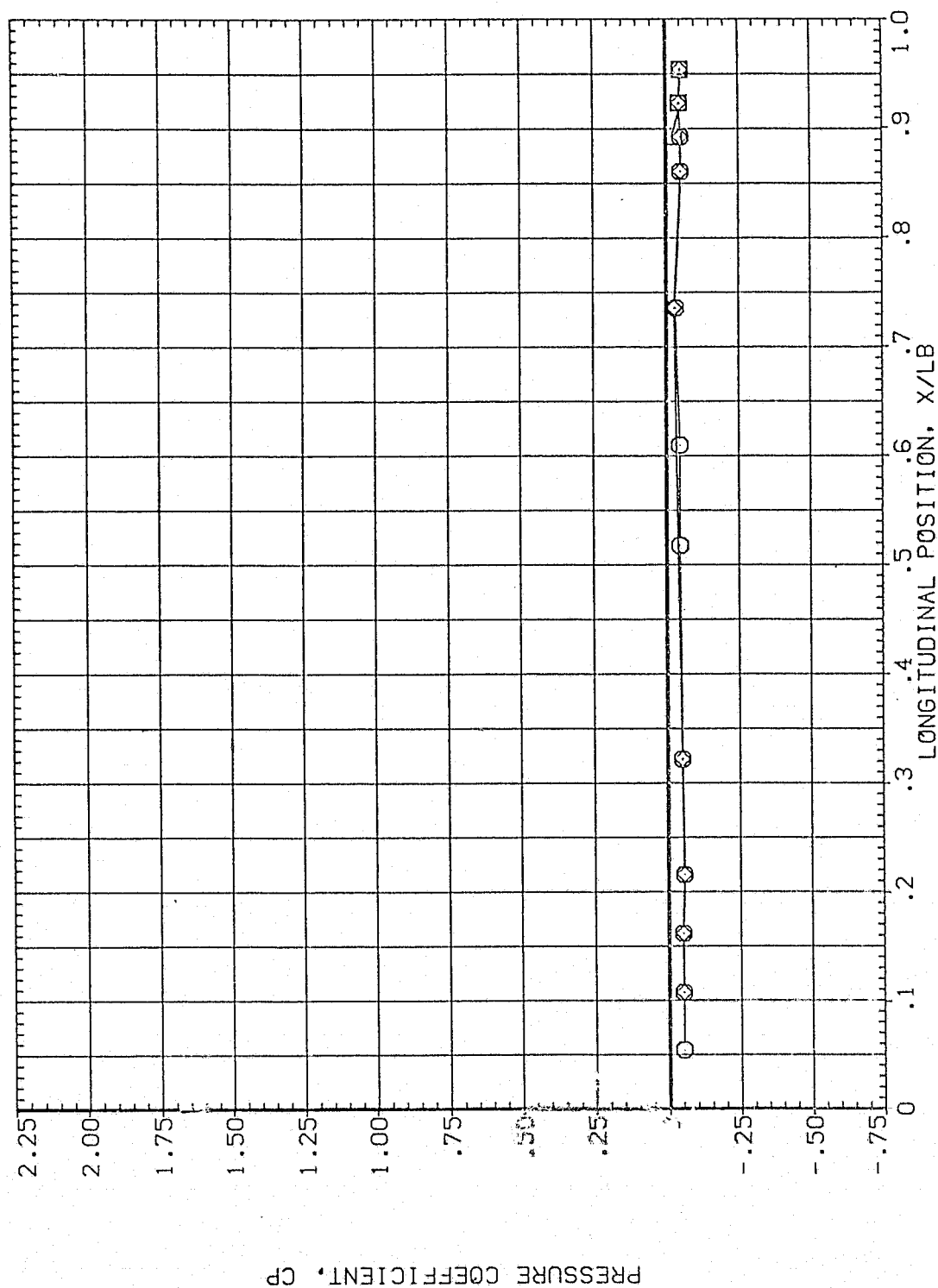


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.000	97.830	3.480	MOUNT	.000
□	14.000			OFFSET	90.000
◇	24.000			PHI	.000

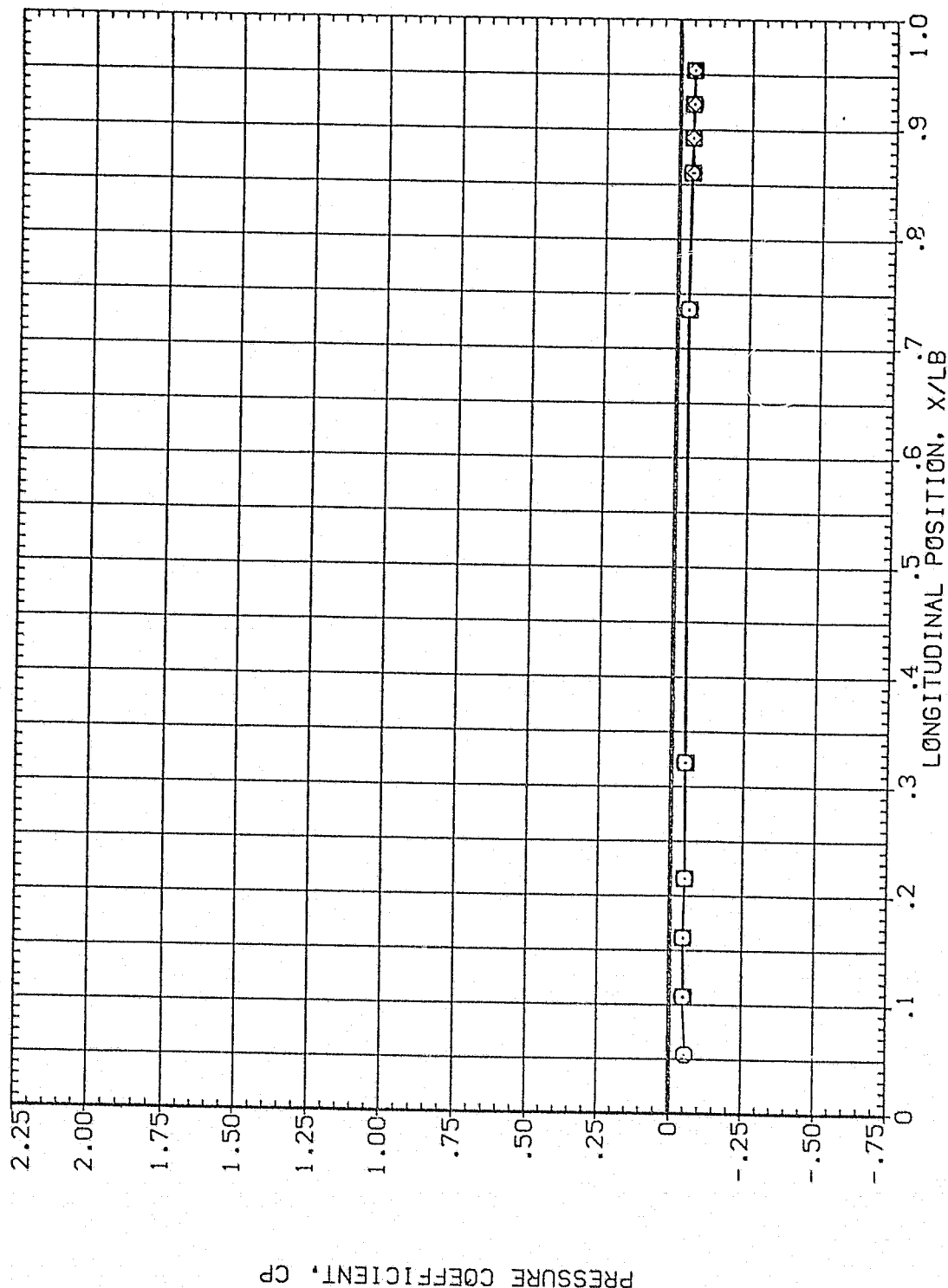


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL	PARAMETRIC VALUES		
	THETA	ALPHA	MACH
◇	45.000	97.830	3.480
□	67.500		
◇	90.000		
		BETA	90.000
		MOUNT	.000
		OFFSET	2.000
		PHI	.000

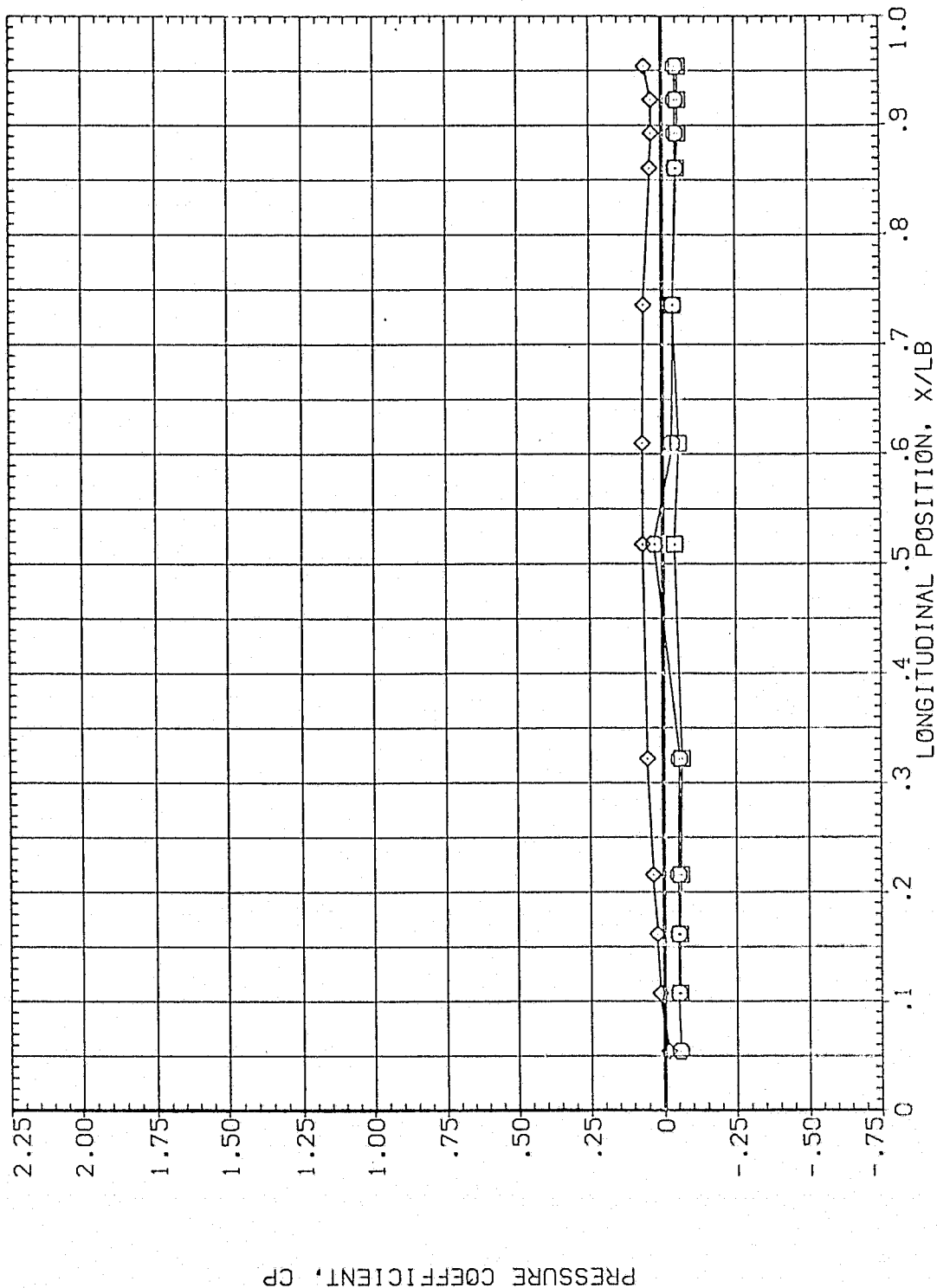


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	112.500	135.000	97.830	157.500	3.480		BETA	.000	OFFSET	90.000
○							MOUNT	2.000	PHI	.000
□										
◇										

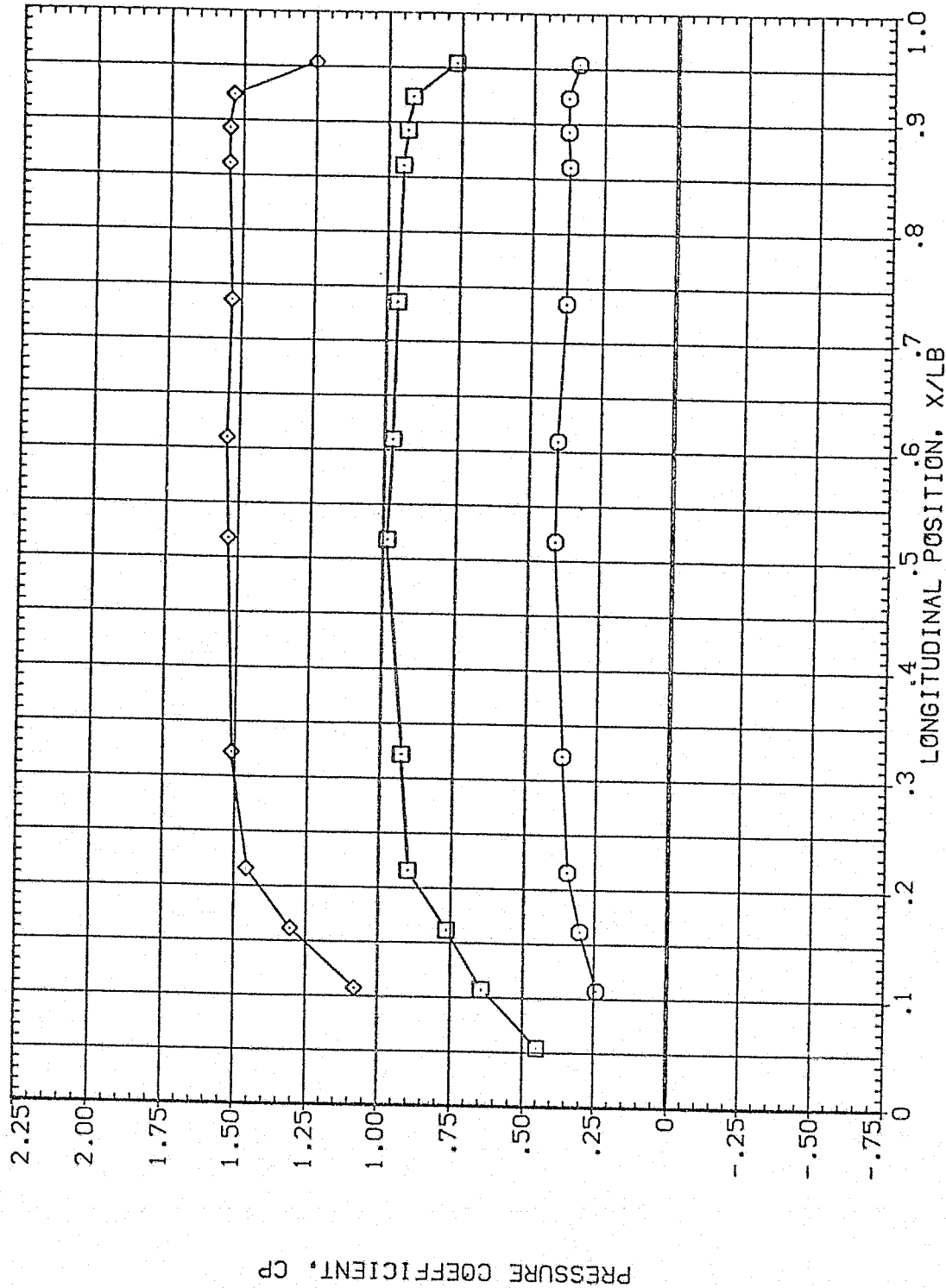


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	97.830	3.480	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				.000

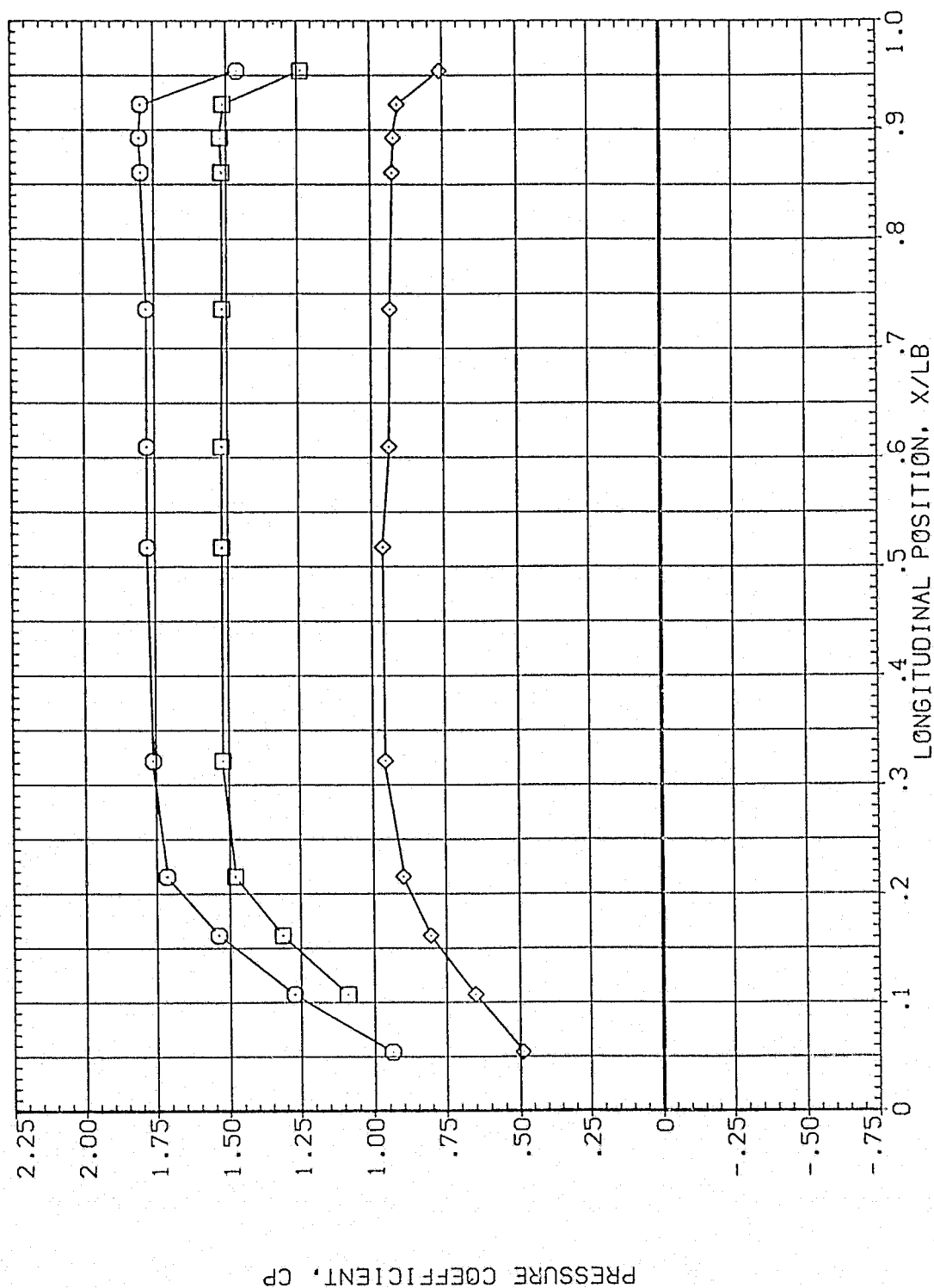


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	97.830	3.480	MOUNT	.000
□	270.000			OFFSET	.000
◇	292.500			PHI	.000

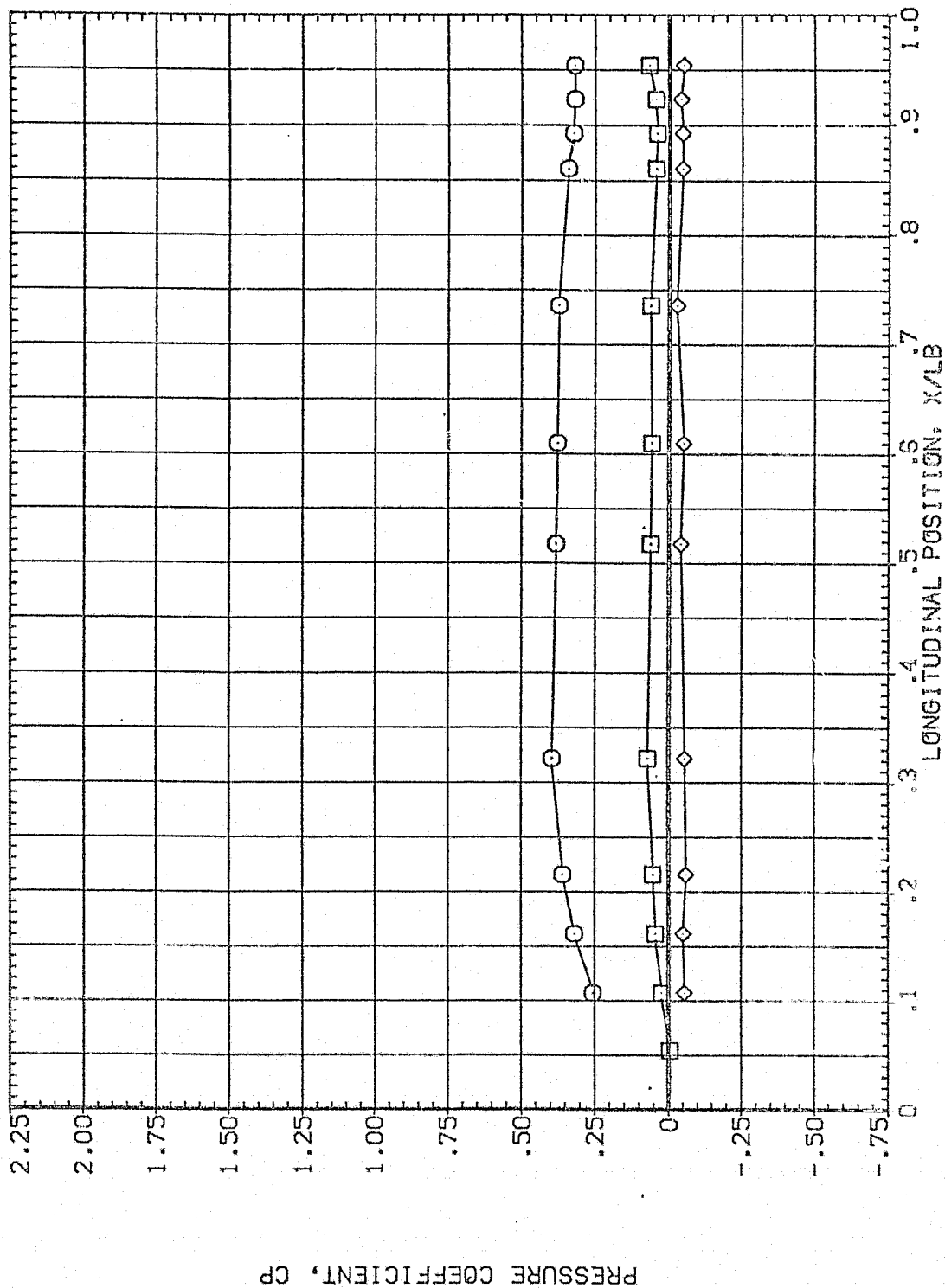


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL

THETA  
315.000  
326.000  
346.000

ALPHA  
97.830

HATCH  
3.480

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI  
90.000  
.000

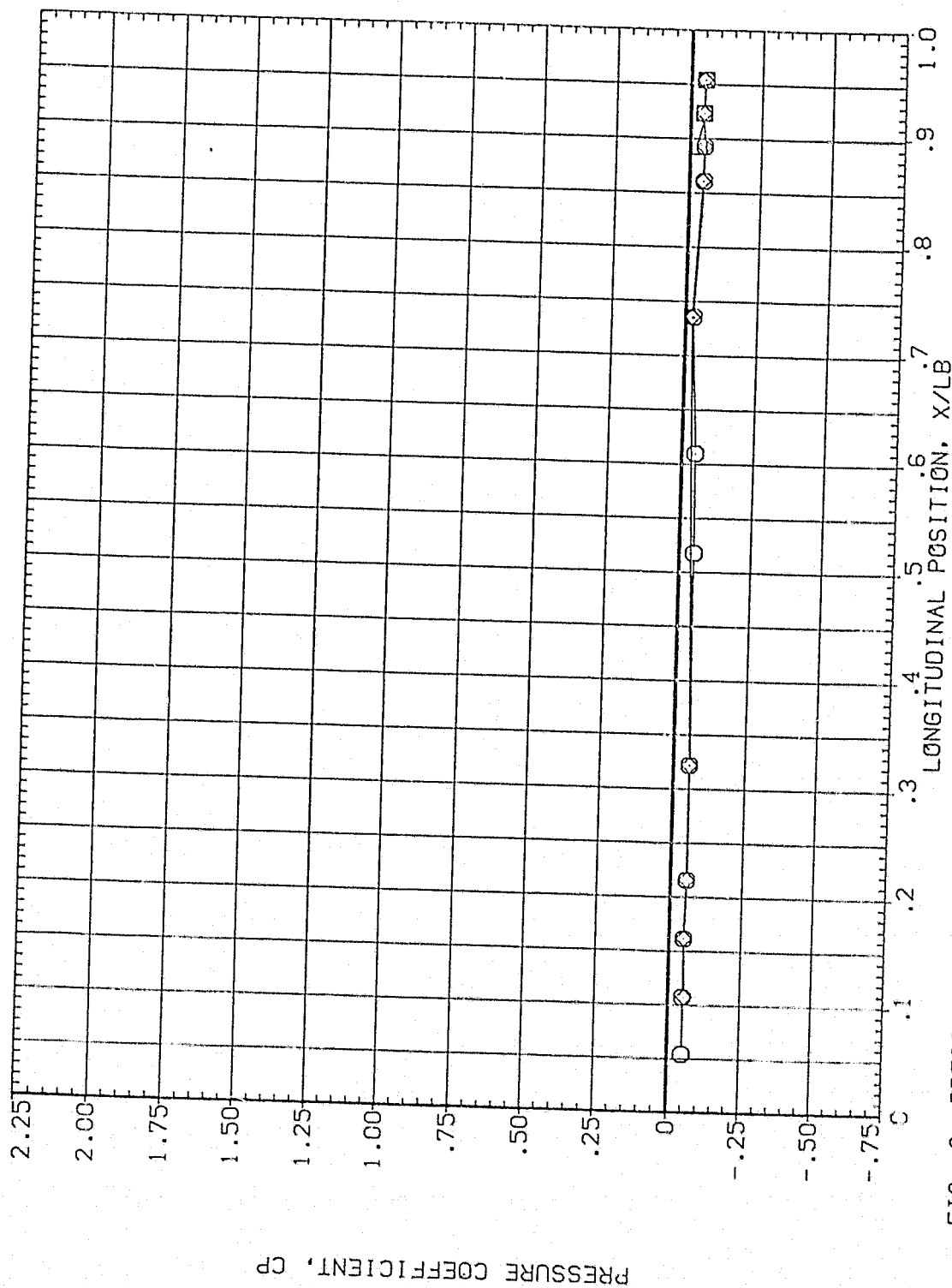


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL THETA ALPHA MACH  
 □ .000 98.750 3.480  
 □ 14.000  
 ◇ 24.000

PARAMETRIC VALUES  
 BETA .000 OFFSET 90.000  
 HOURS? 2.000 PHI .000

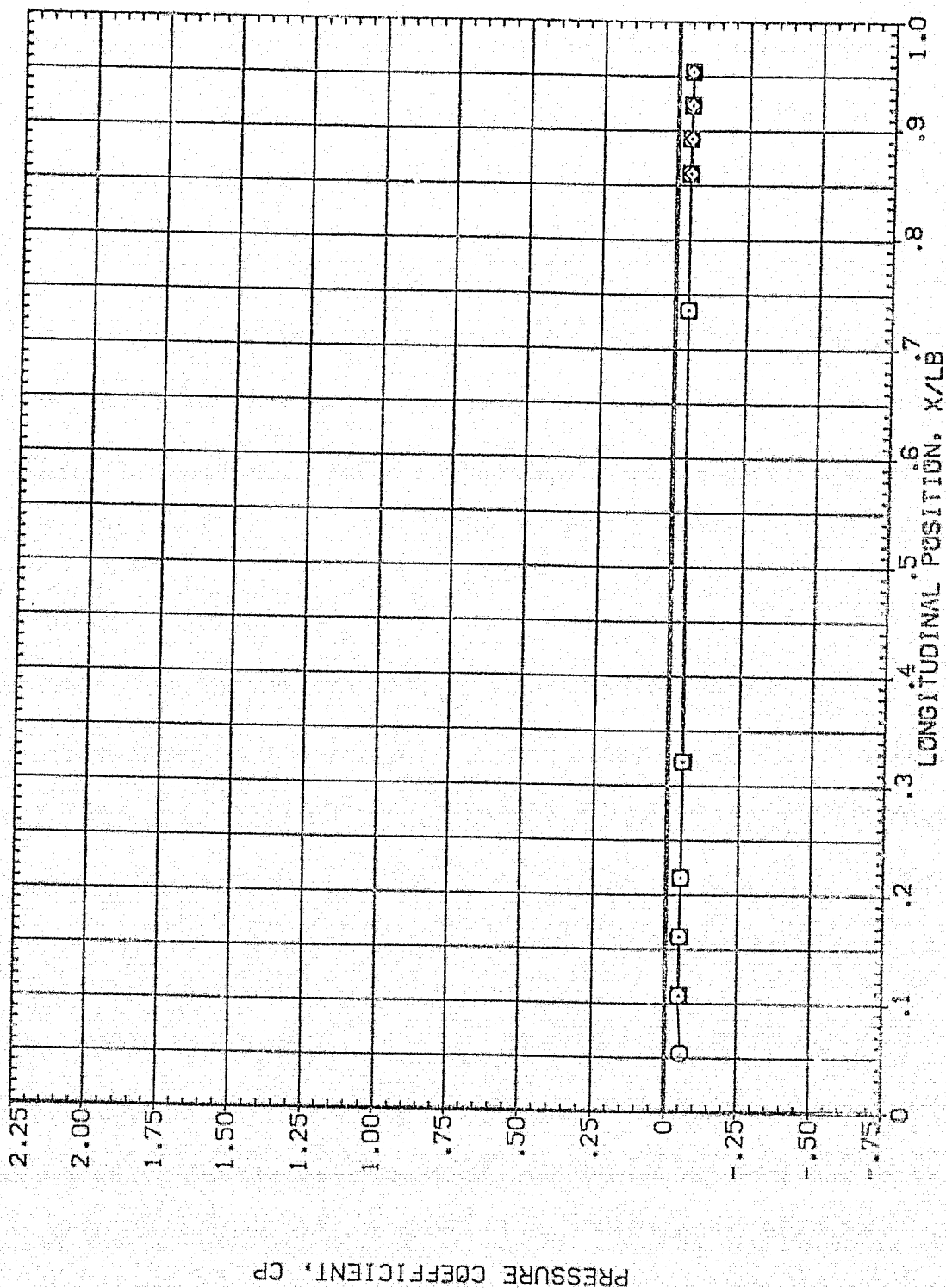


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(PIA080)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
◇  
□  
○

THETA  
45.000  
67.500  
90.000

ALPHA  
99.750

MACH  
3.480

PARAMETRIC VALUES  
BETA  
MOUNT

90.000  
2.000  
OFFSET  
PHI  
.000

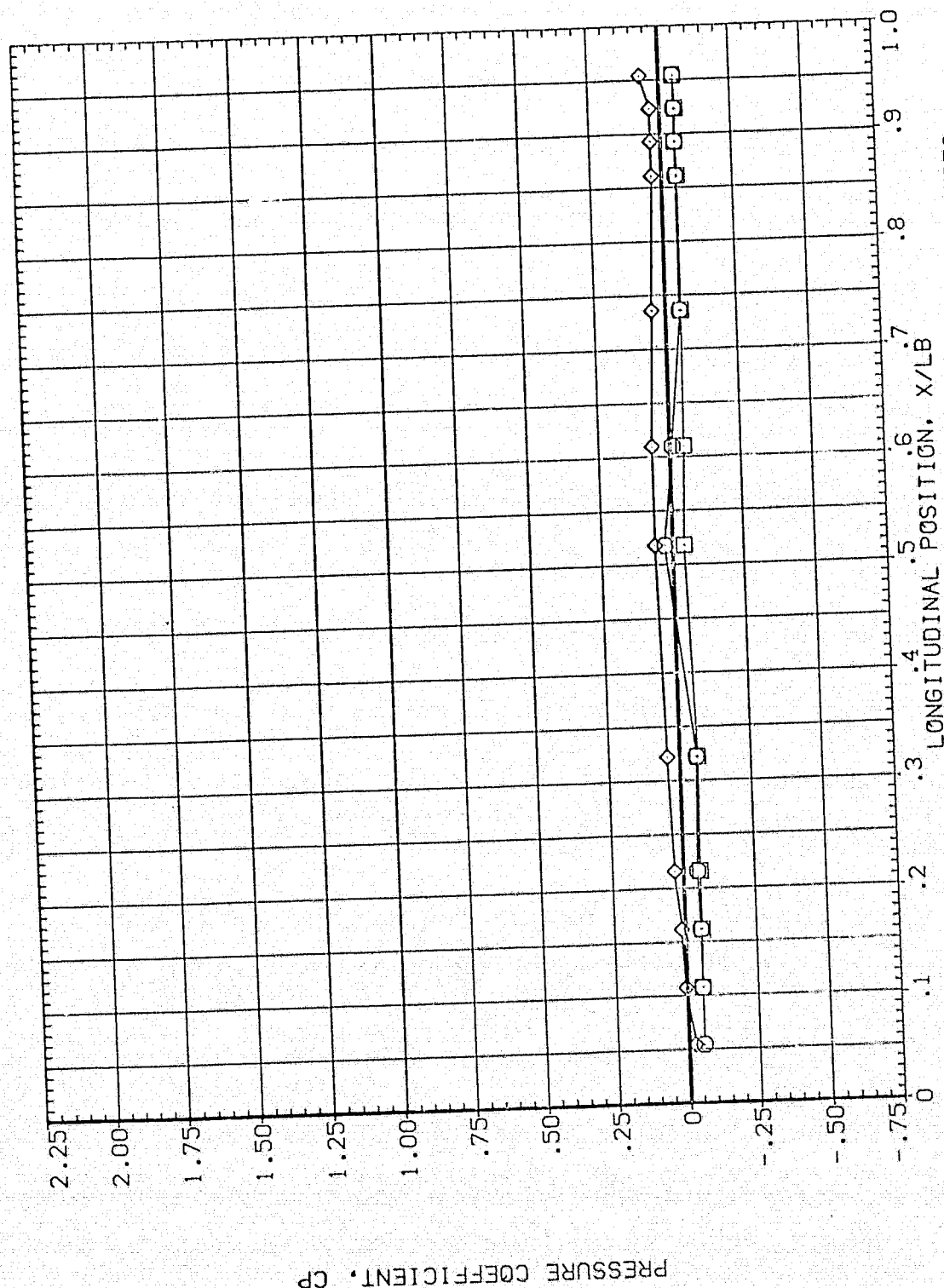


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA MOUNT	OFFSET PHI	90.000 .000
○	112.500	99.750	3.483			
□	135.000					
◇	157.500					

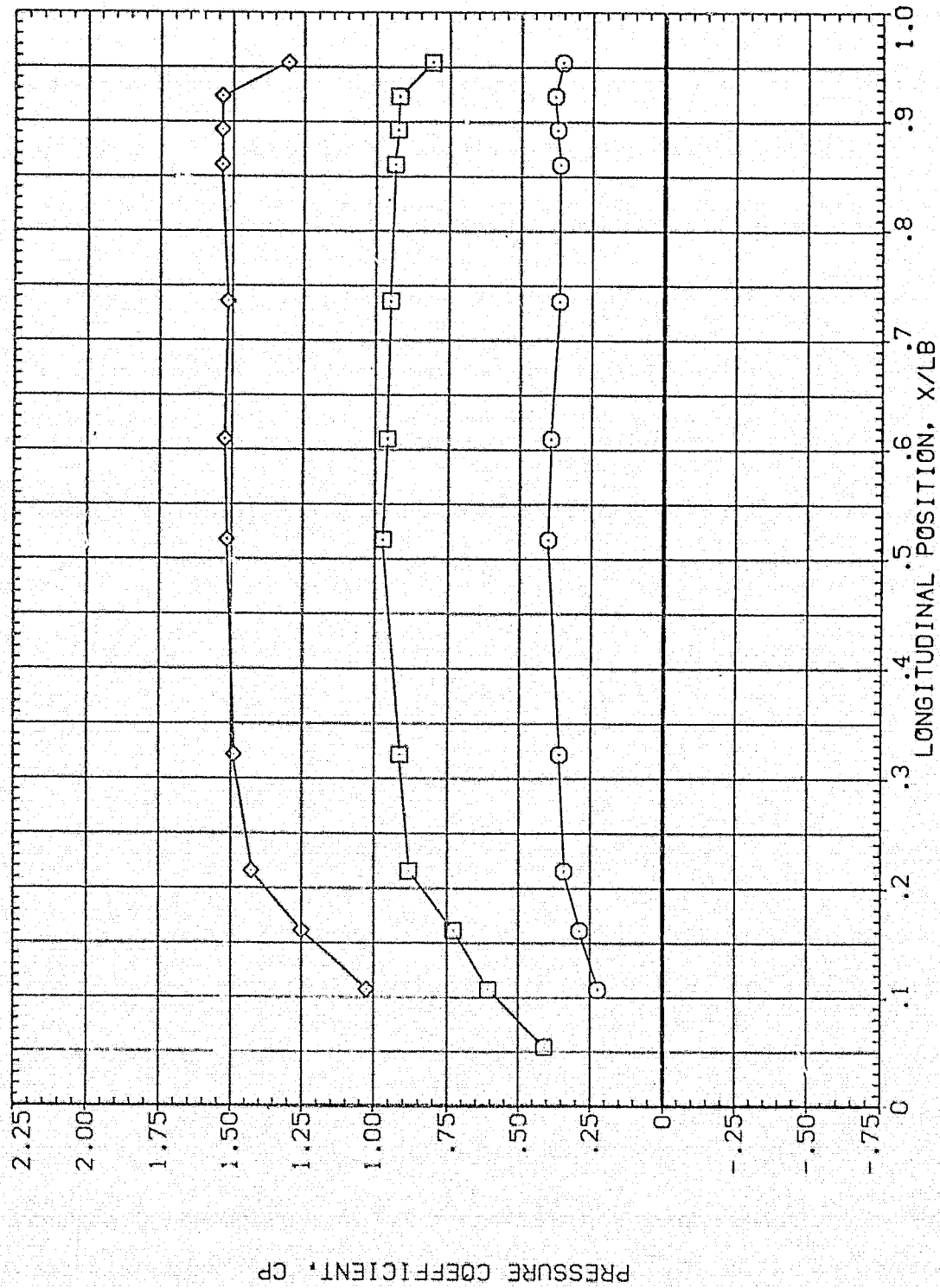


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
○ □ ◇

THETA 180.000  
202.500  
225.000  
ALPHA 99.750  
MACH 3.480

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
PHI 90.000  
.000  
.000

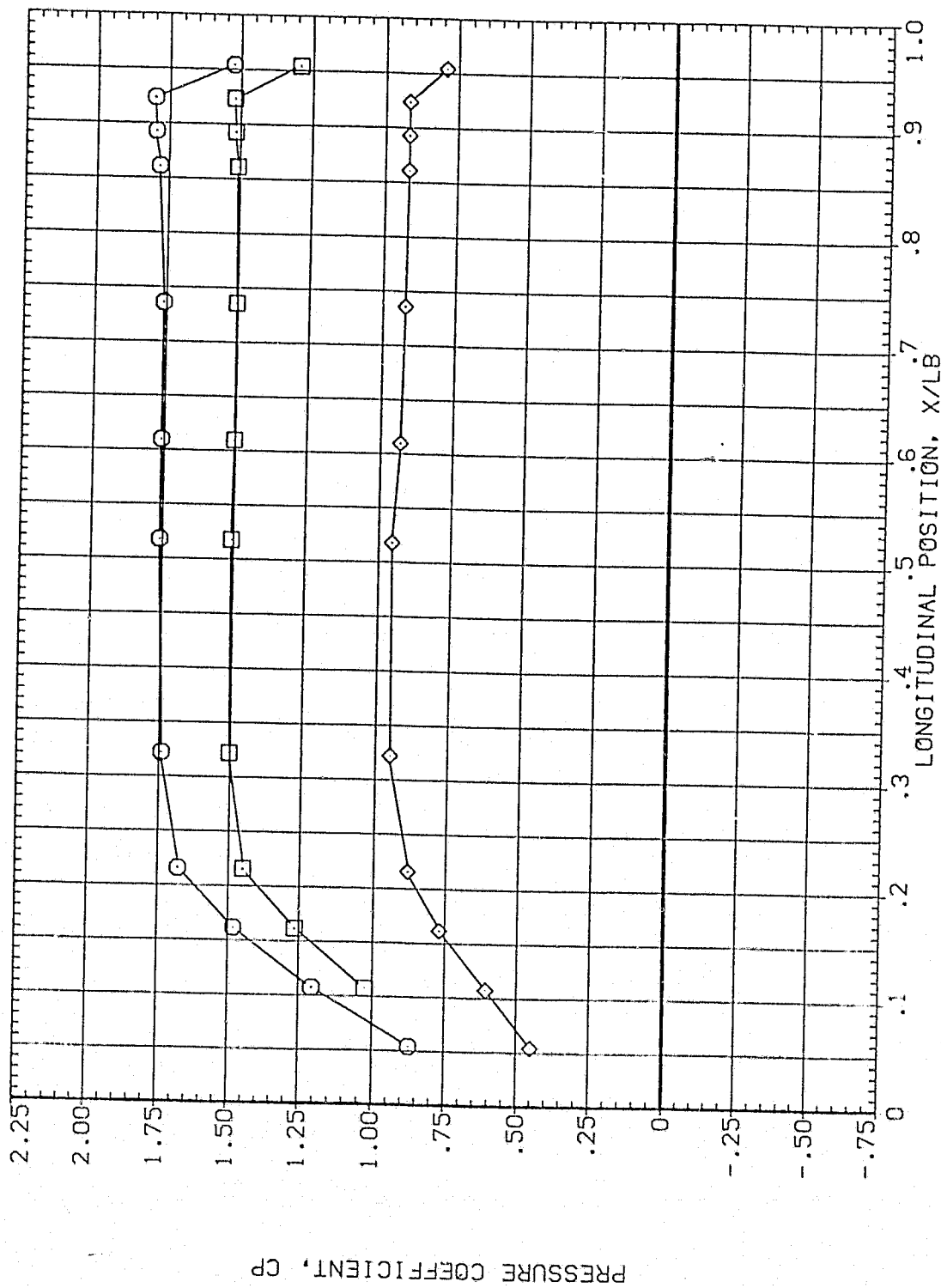


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	247.500	99.750	3.480	MOUNT	.000
□	270.000				OFFSET
◇	292.500				PHI
					90.000
					.000

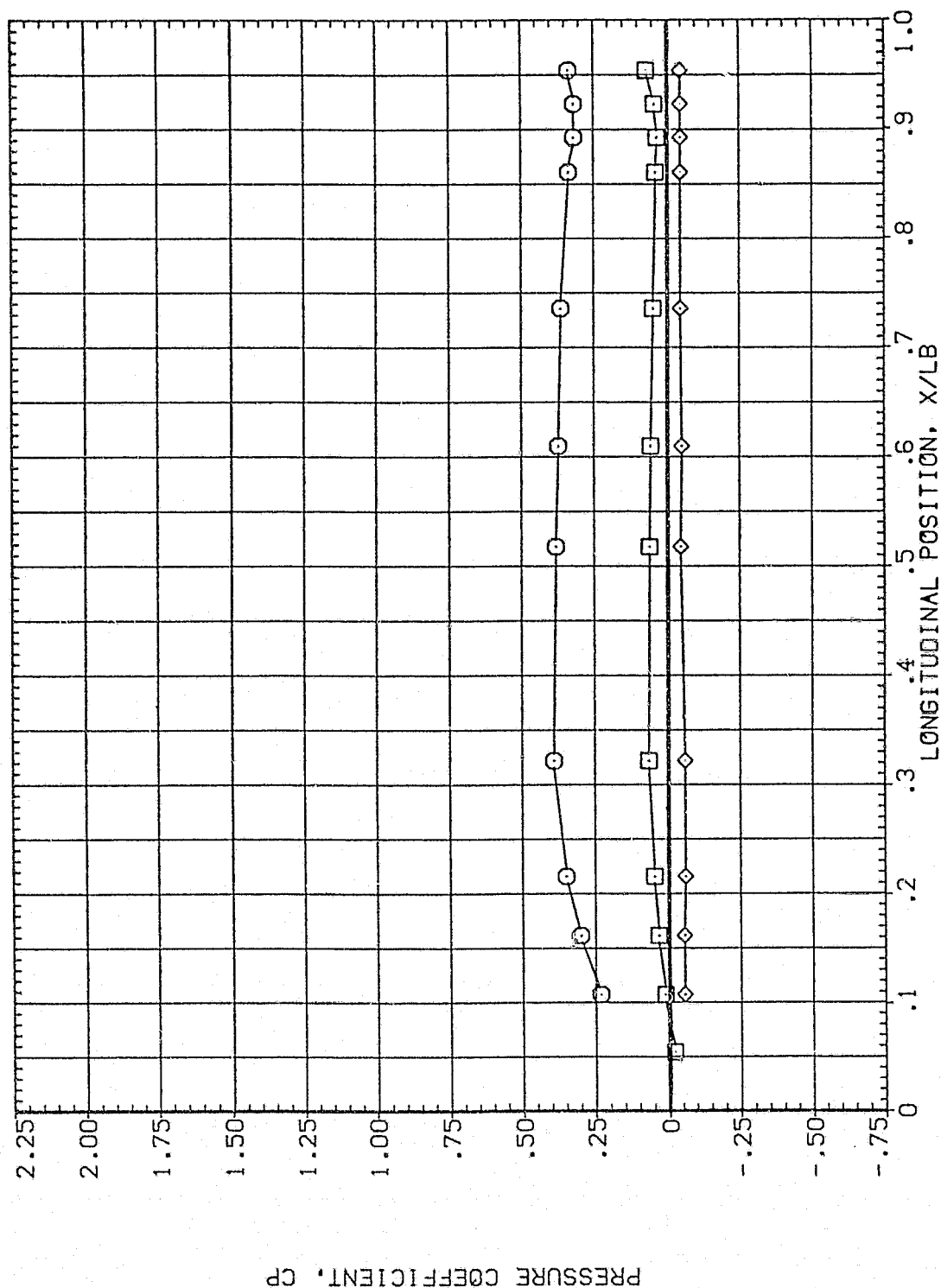


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL    THETA    ALPHA    MACH  
 ○    315.000    99.750    3.480  
 □    326.000  
 ◇    346.000

PARAMETRIC VALUES  
 BETA    .000    OFFSET    90.000  
 MOUNT    7.000    PHI    .000

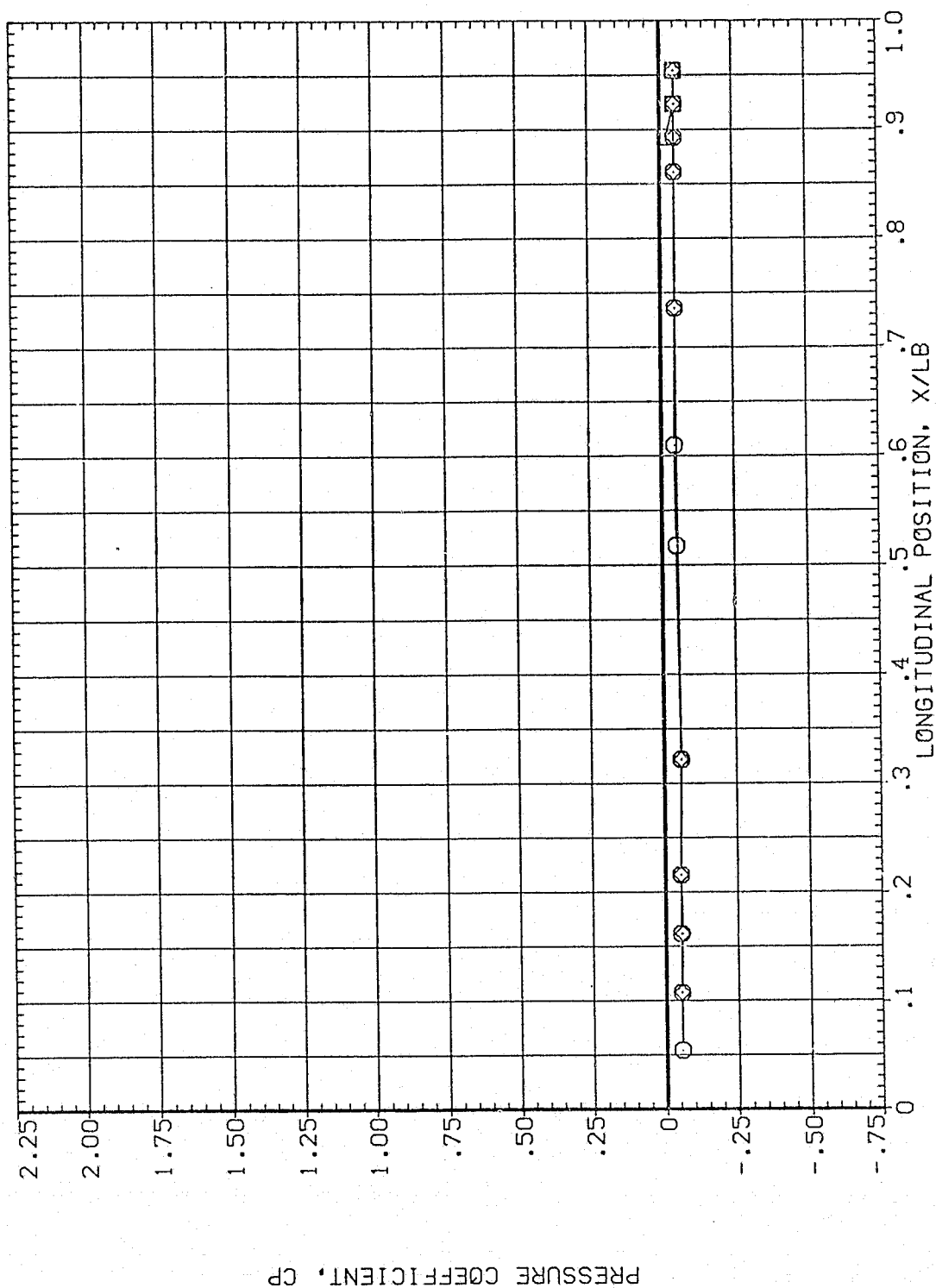


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(P1A061)

PARAMETRIC VALUES	
.000	OFFSET
2.000	PHI

ALPHA	MACH
51.000	4.960

ALPHA  
51.000

THETA  
.000

SYMBOL

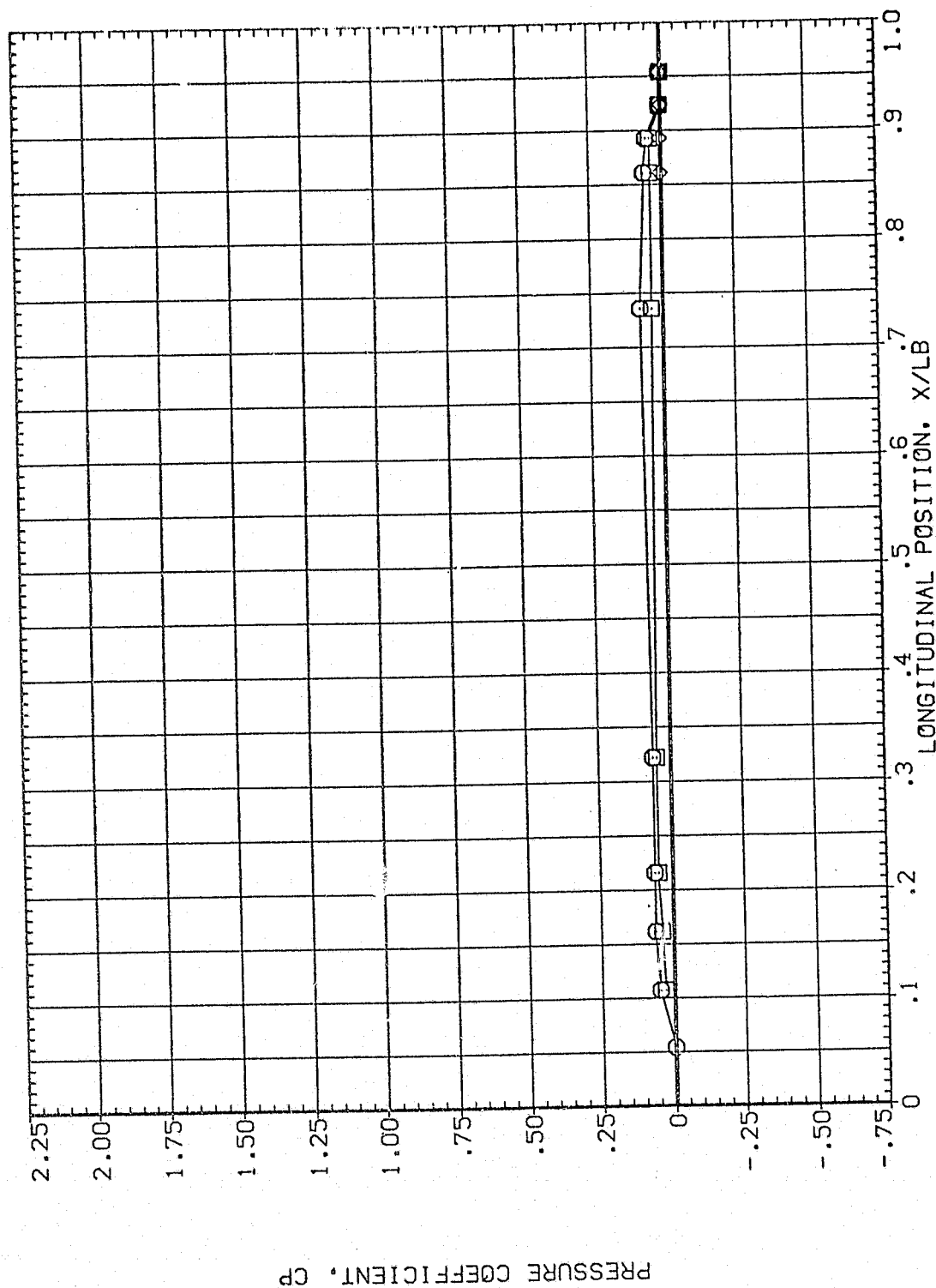


FIG. 8. PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
◇	45.000	51.000	4.960	BETA	.000	OFFSET
□	67.500			POINT	2.000	PHI
◇	90.000					

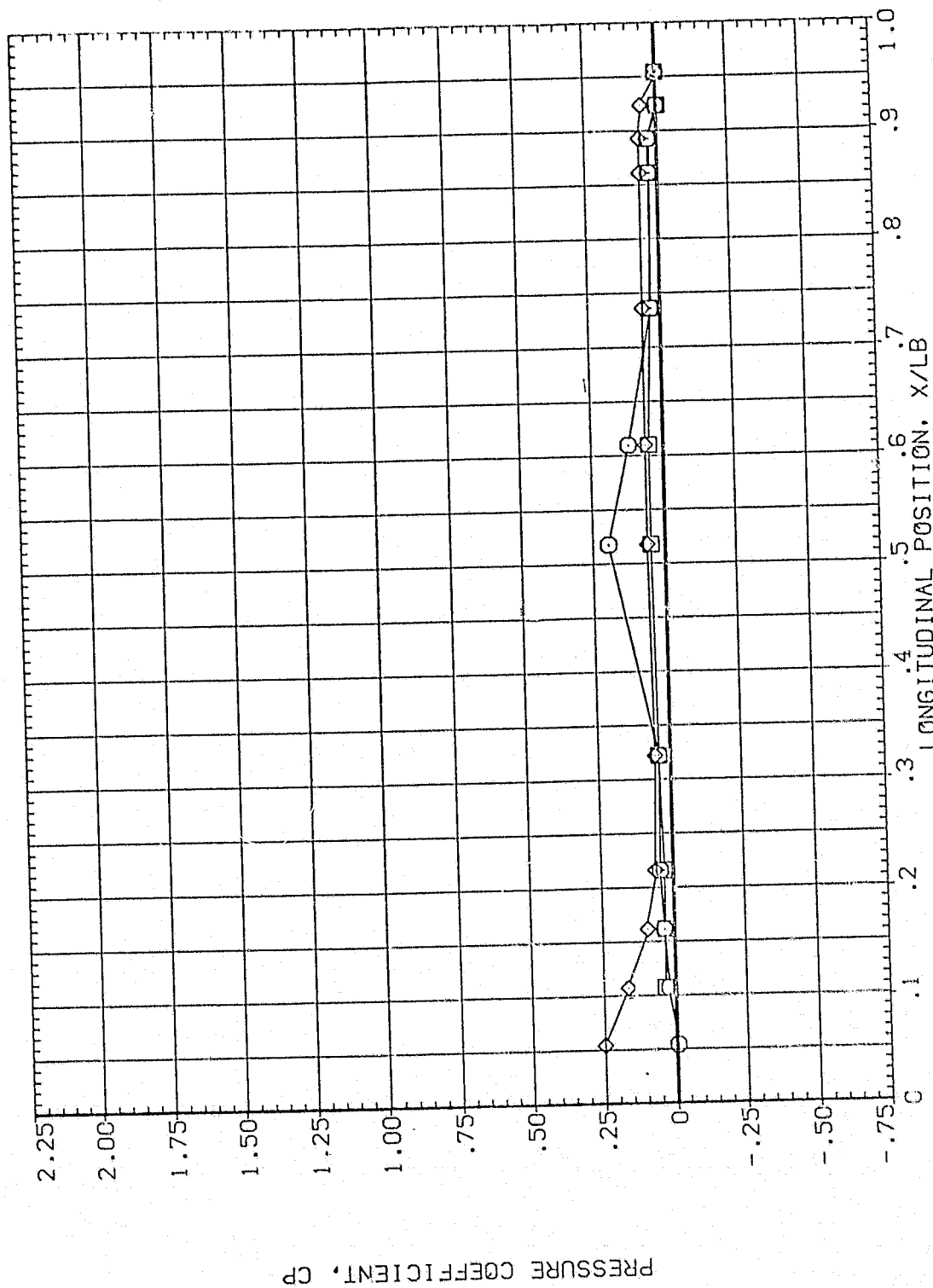


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	51.000	4.960	HOUNT	.000	.000
□	135.000				2.000	
◇	157.500					60.000

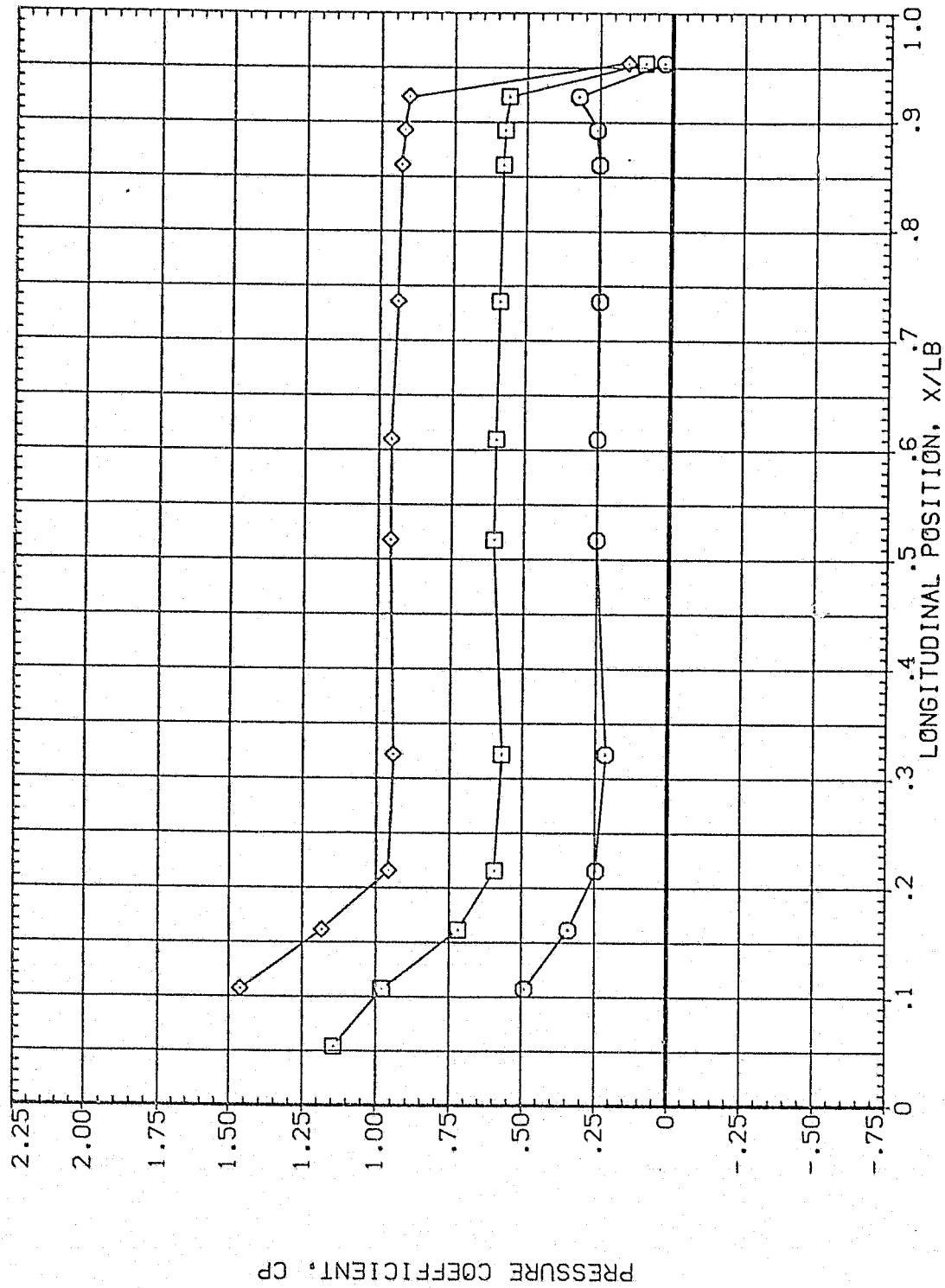


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	51.000	4.960	HEIGHT	.000 OFFSET PHI
□	202.500				2.000
◇	225.000				60.000 .000

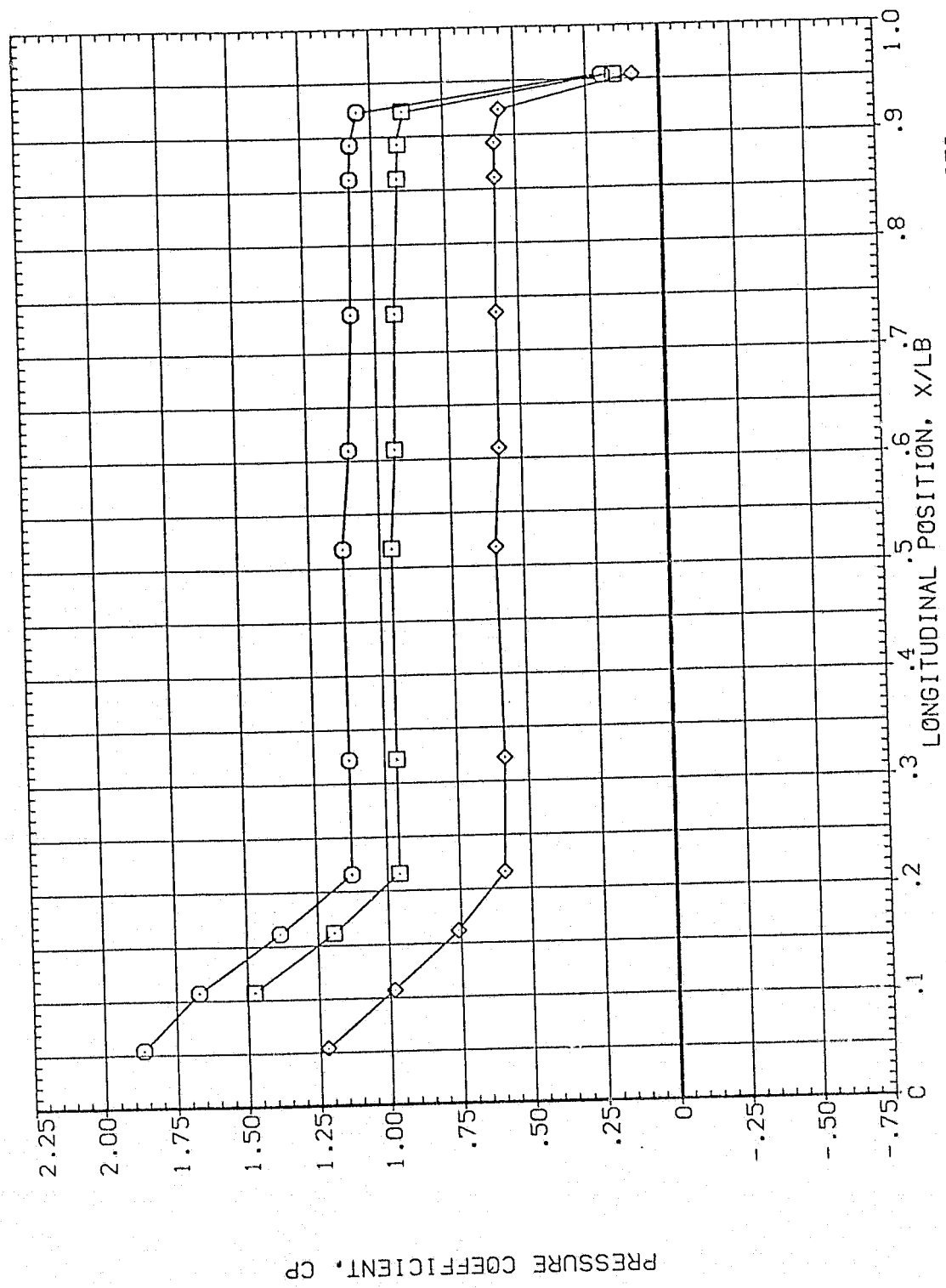


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

[P1A061]

PARAMETRIC VALUES	
.000	OFFSET
2.000	PHI
60.000	
.000	

SYMBOL	THETA	ALPHA	MACH
○	247.500	51.000	4.960
□	270.000		
◇	292.500		

THETA	ALPHA
247.500	51.000

MACH 4.96

BETA  
MOUNT

000.  
000.00

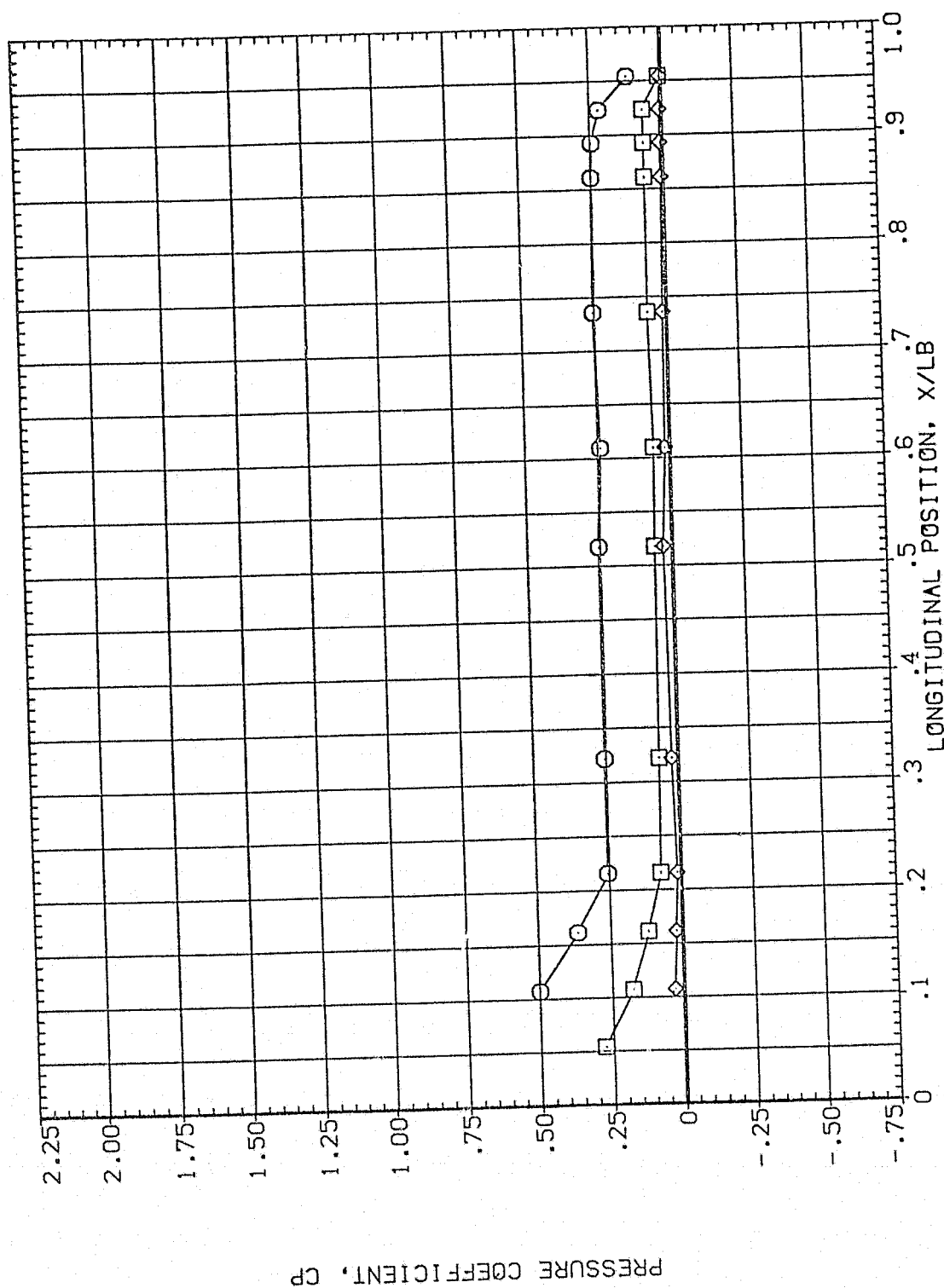


FIG. 8. PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(P1A061)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
◇  
□  
○

THETA  
315.000  
326.000  
346.000

ALPHA  
51.000

MACH  
4.960

BETA  
MOUNT

PARAMETRIC VALUES  
.000 OFFSET  
2.000 PHI

60.000  
.000

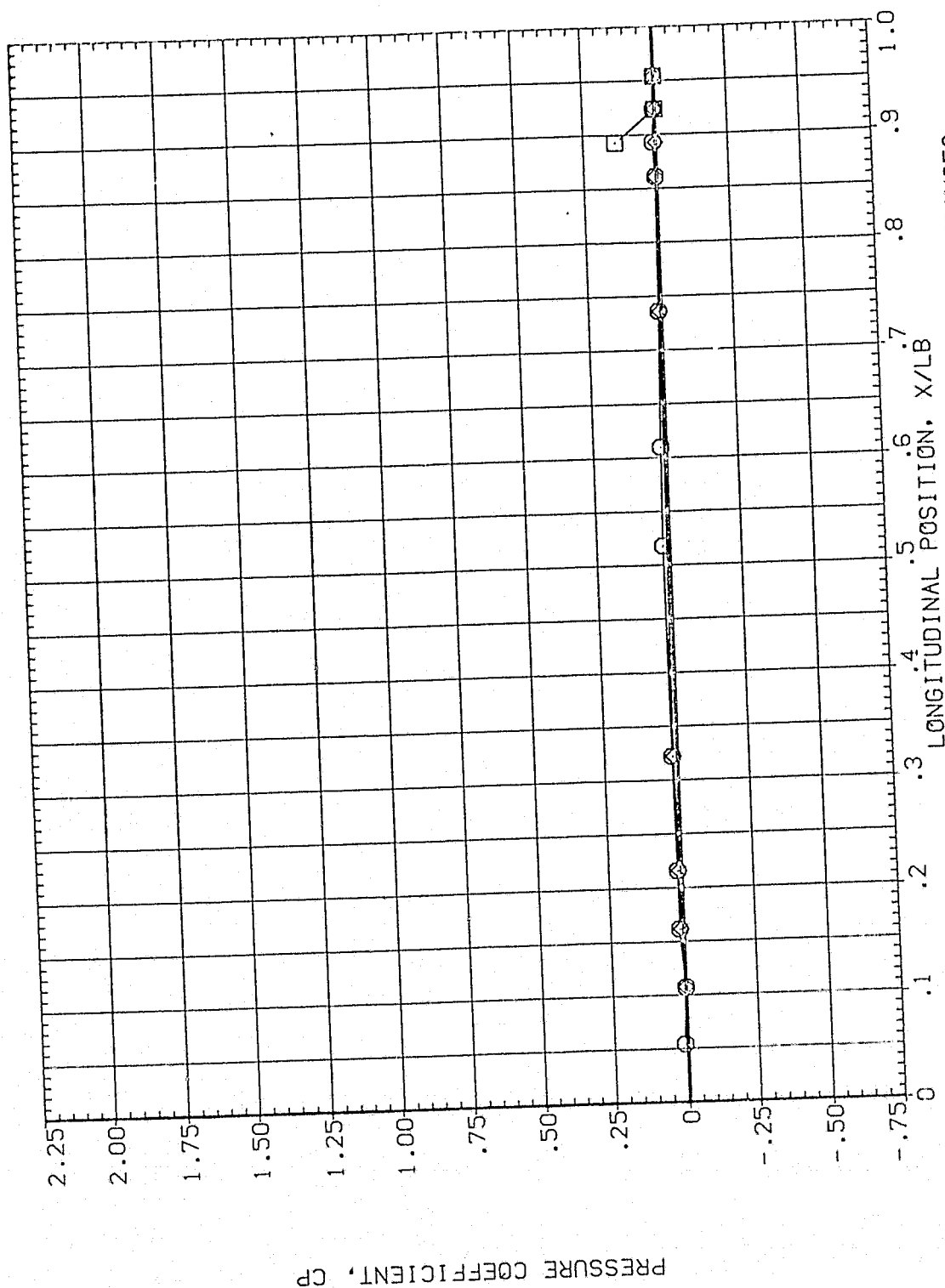


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

PARAMETRIC VALUES  
 BETA .000 OFFSET 60.000  
 MOUNT 2.000 PHI .000

THETA .000 MACH 4.960  
 ALPHA 54.130

SYMBOL  
 □ 14.000  
 ◇ 24.000

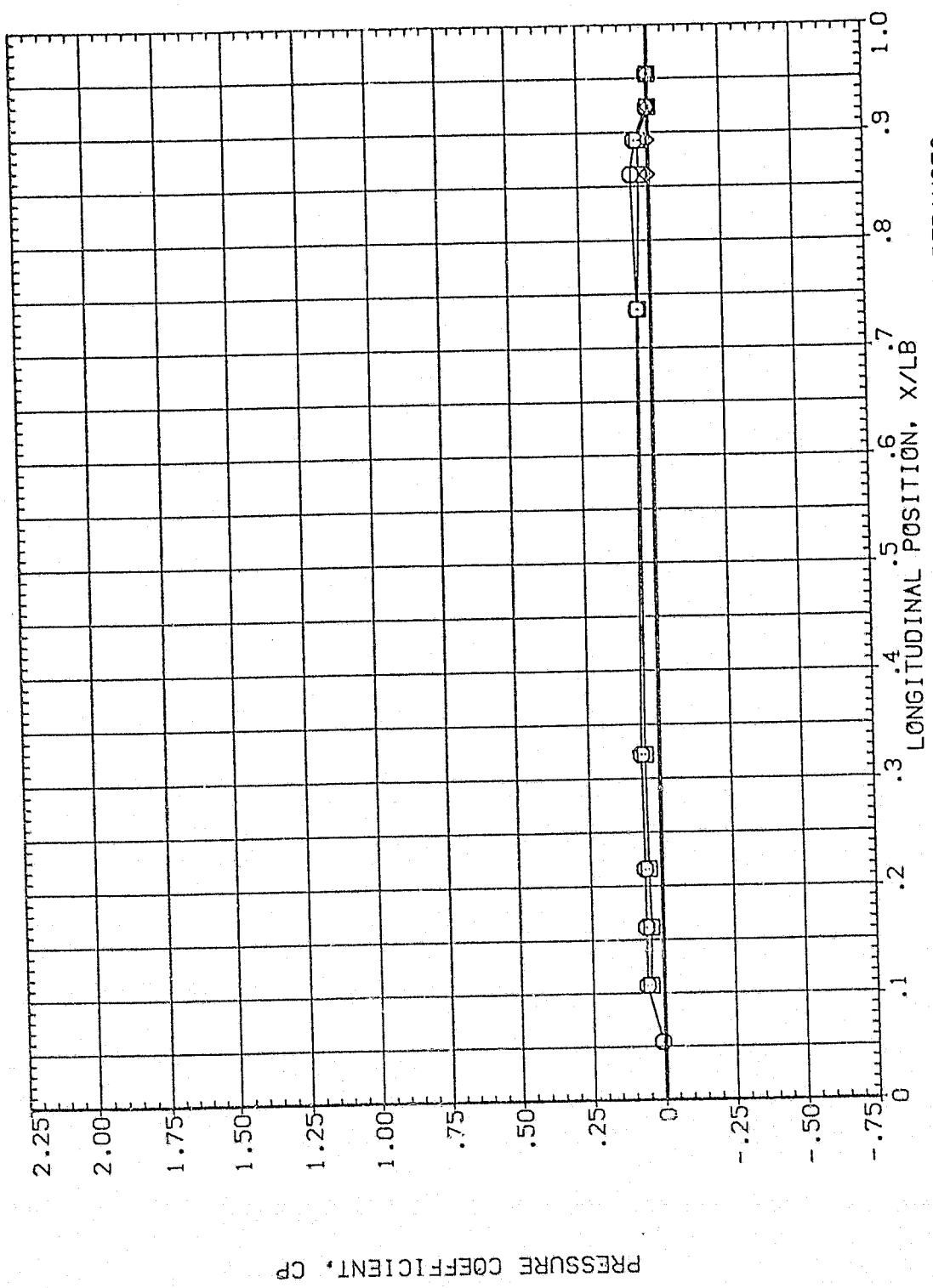


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(P1A062)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
◇  
□  
○

THETA  
45.000  
67.500  
90.000

ALPHA  
54.130

MACH  
4.960

PARAMETRIC VALUES  
BETA  
MOUNT

60.000  
2.000  
0.000  
PHI

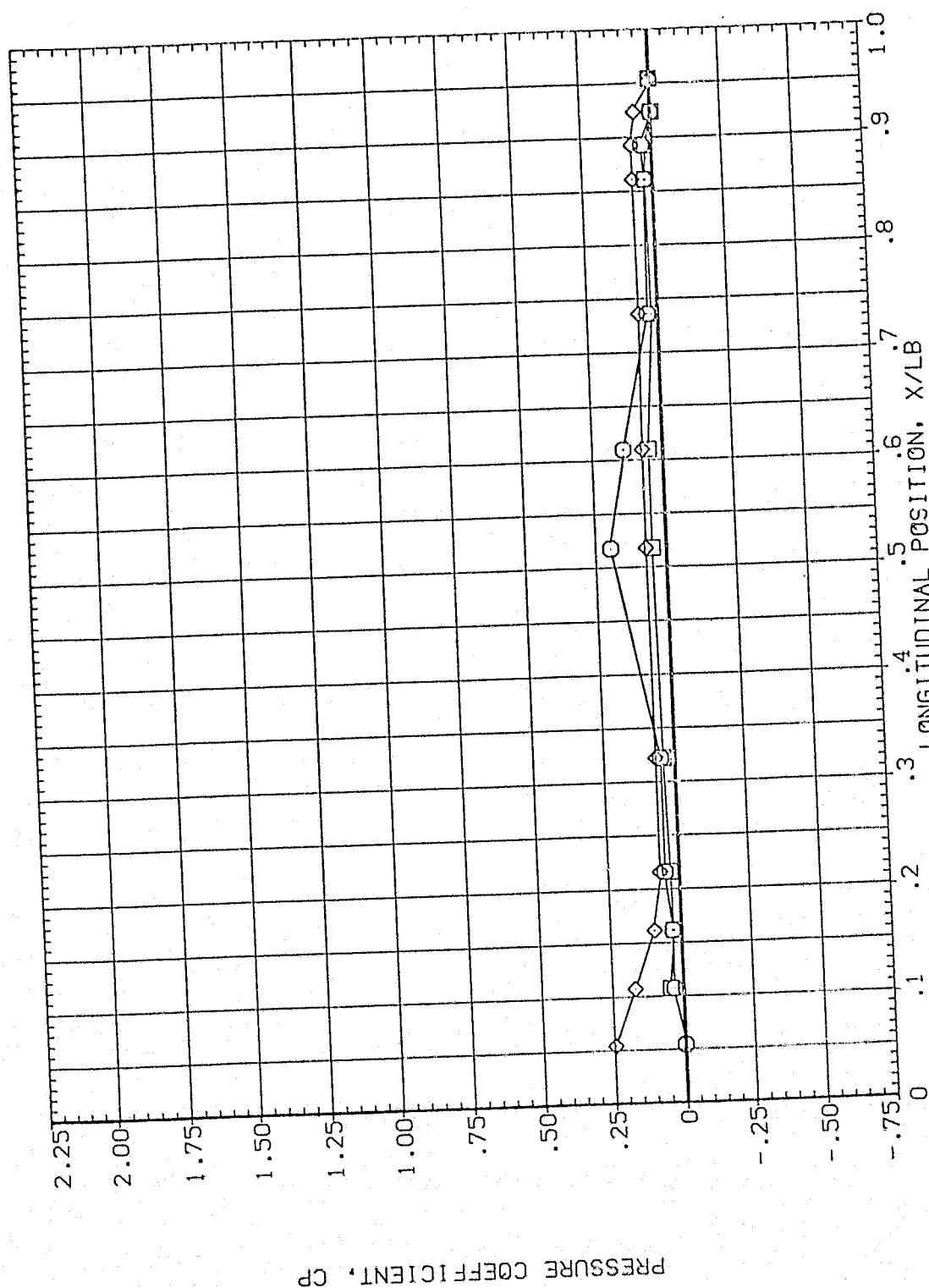


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	54.130	4.960	2.000	.000	.000
□	135.000					
◇	157.500					

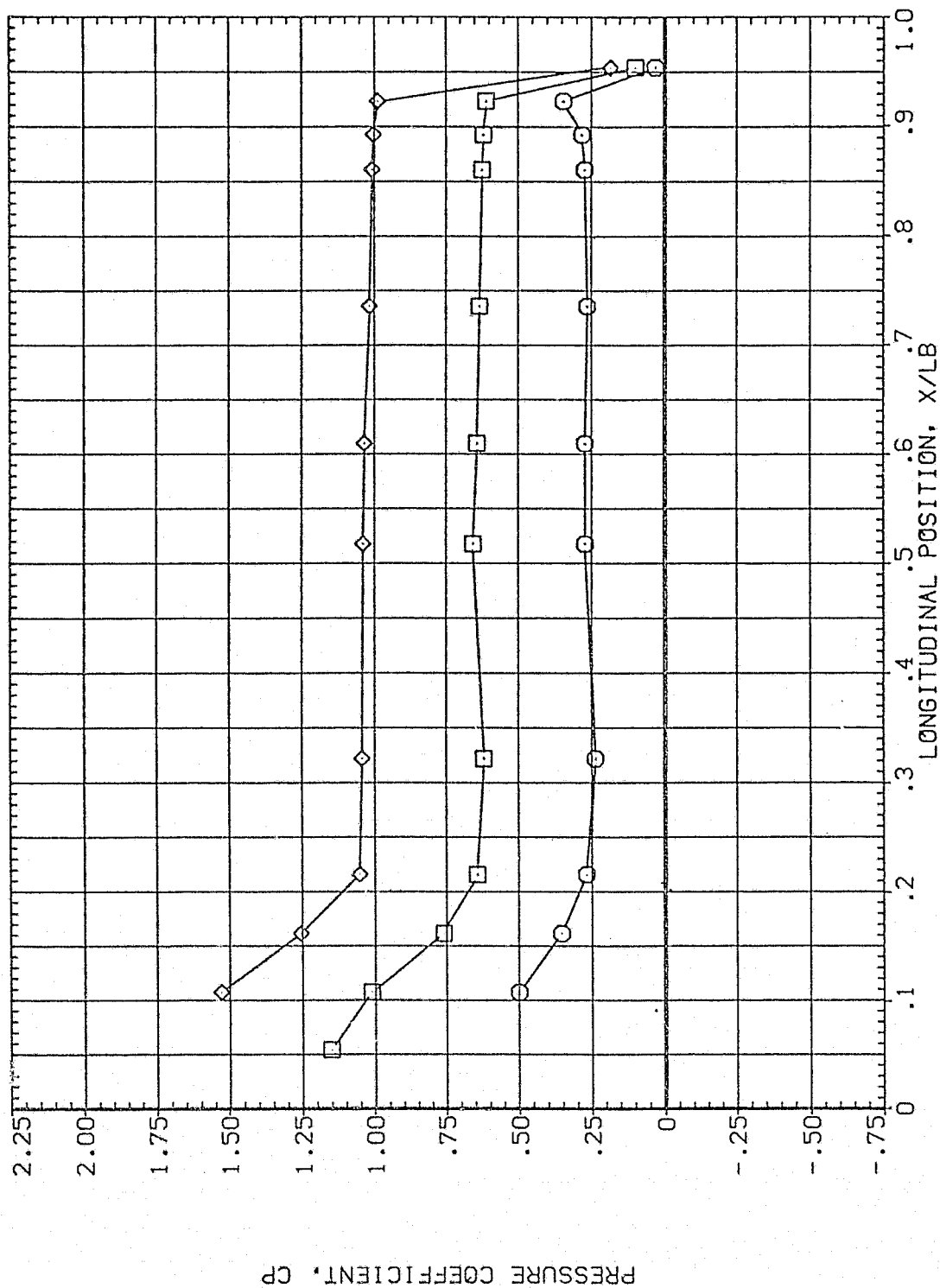


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	180.000	54.130	4.960	2.000	.000	.000
□	202.500			2.000	.000	.000
◇	225.000			2.000	.000	.000

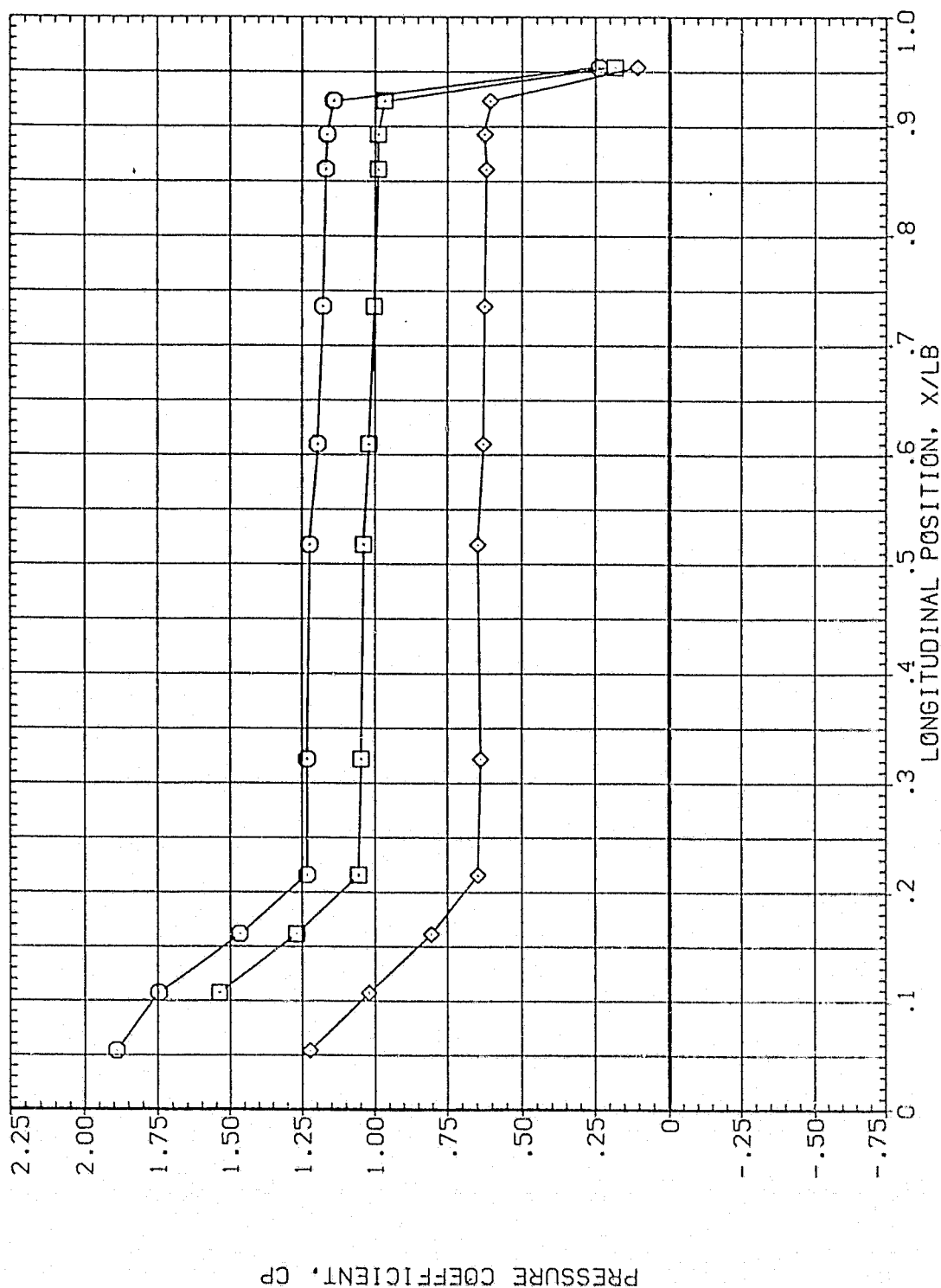


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	54.130	4.960	.000	.000	.000
□	270.000			2.000		
◇	292.500					

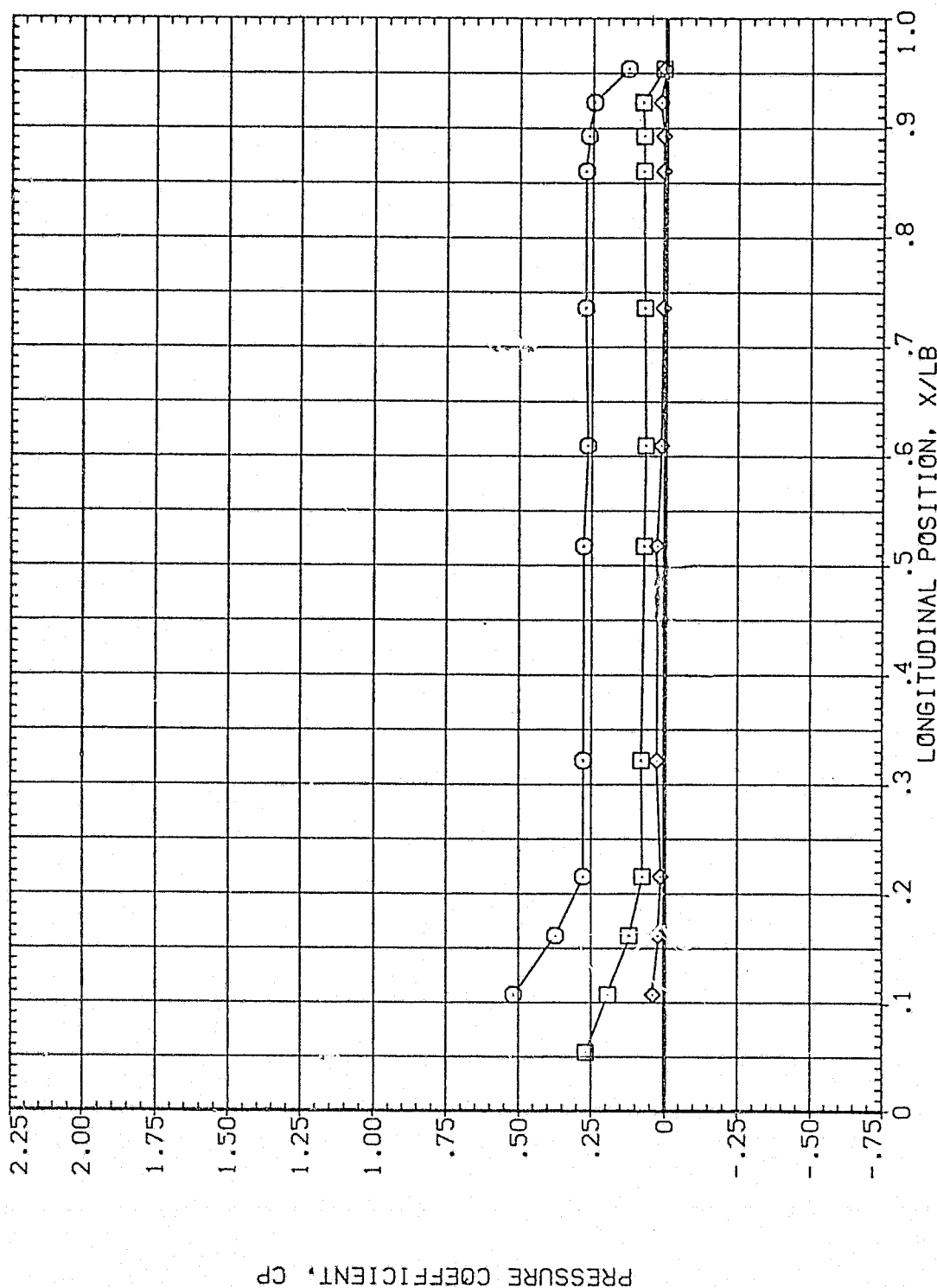


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
◇	315.000	54.130	4.960	MOUNT	2.000	PHI
◇	326.000					.000
◇	346.000					

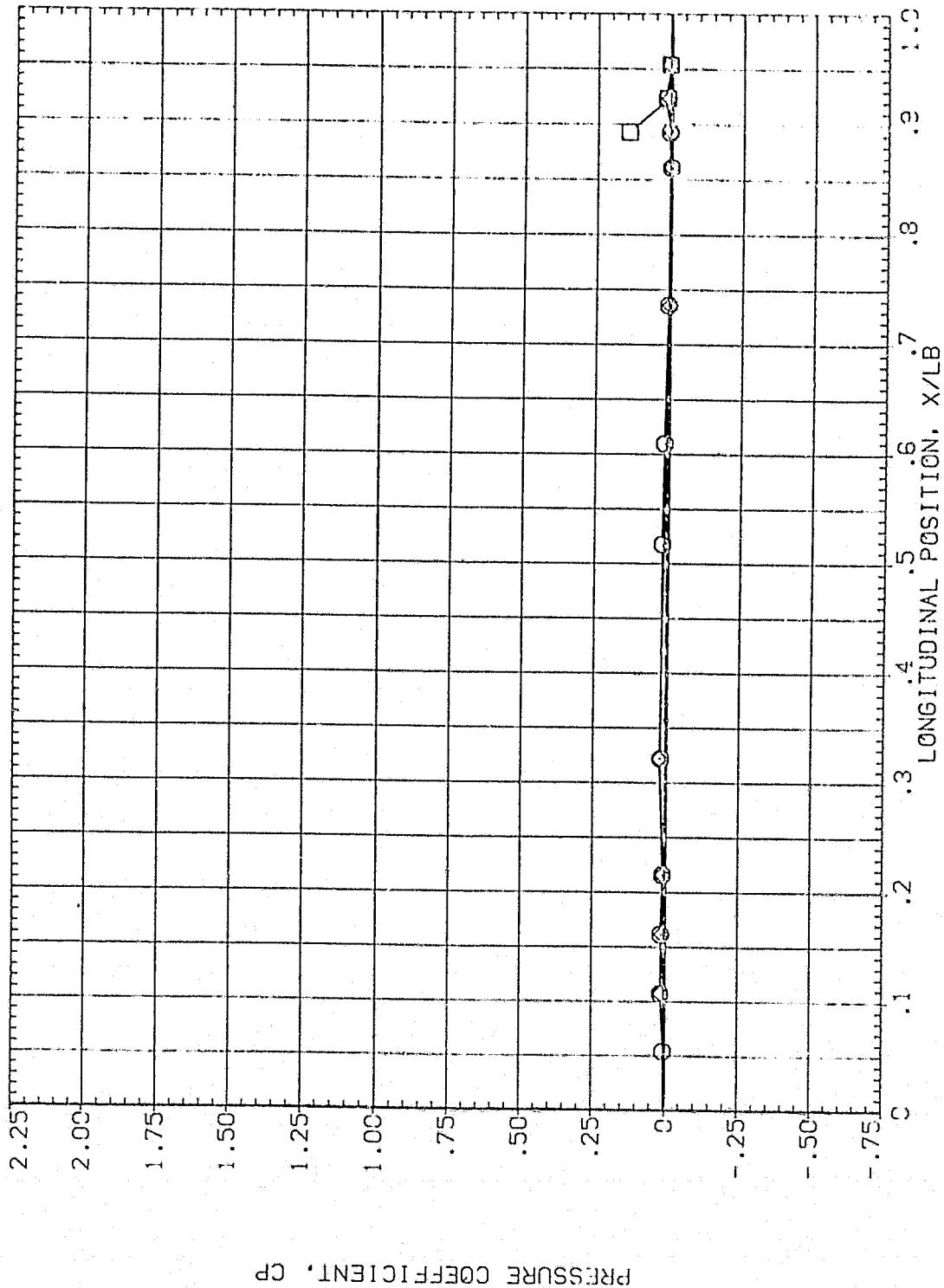


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL  
○  
□  
◇

THETA  
.000  
14.000  
24.000

ALPHA  
57.130

MACH  
4.960

PARAMETRIC VALUES  
BETA  
MOUNT

OFFSET  
PHI

60.000  
.000  
2.000  
.000

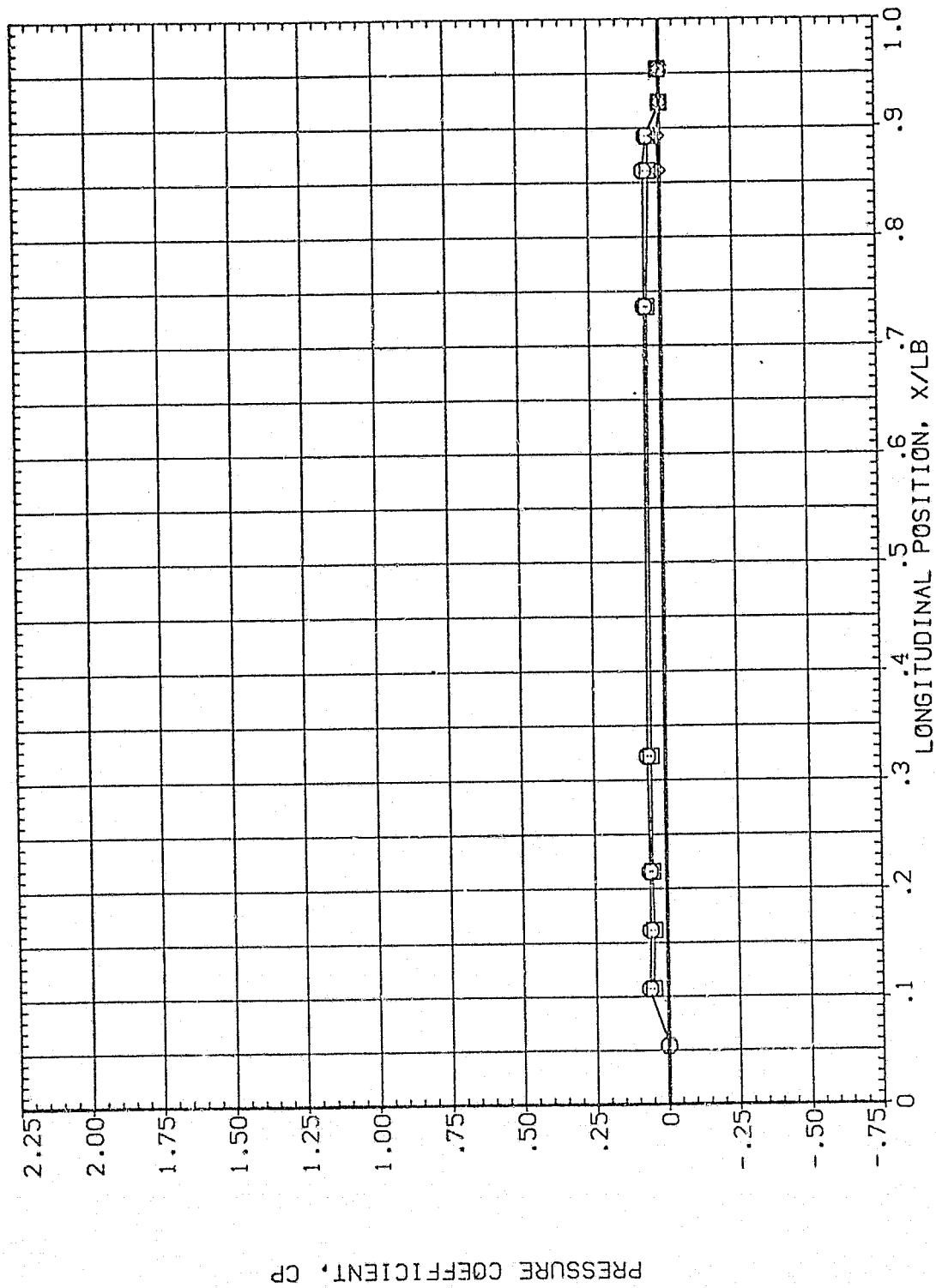


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA063)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES
○	45.000	57.130	4.960	.000 OFFSET
□	67.500			2.000 PHI
◇	90.000			60.000 .C00

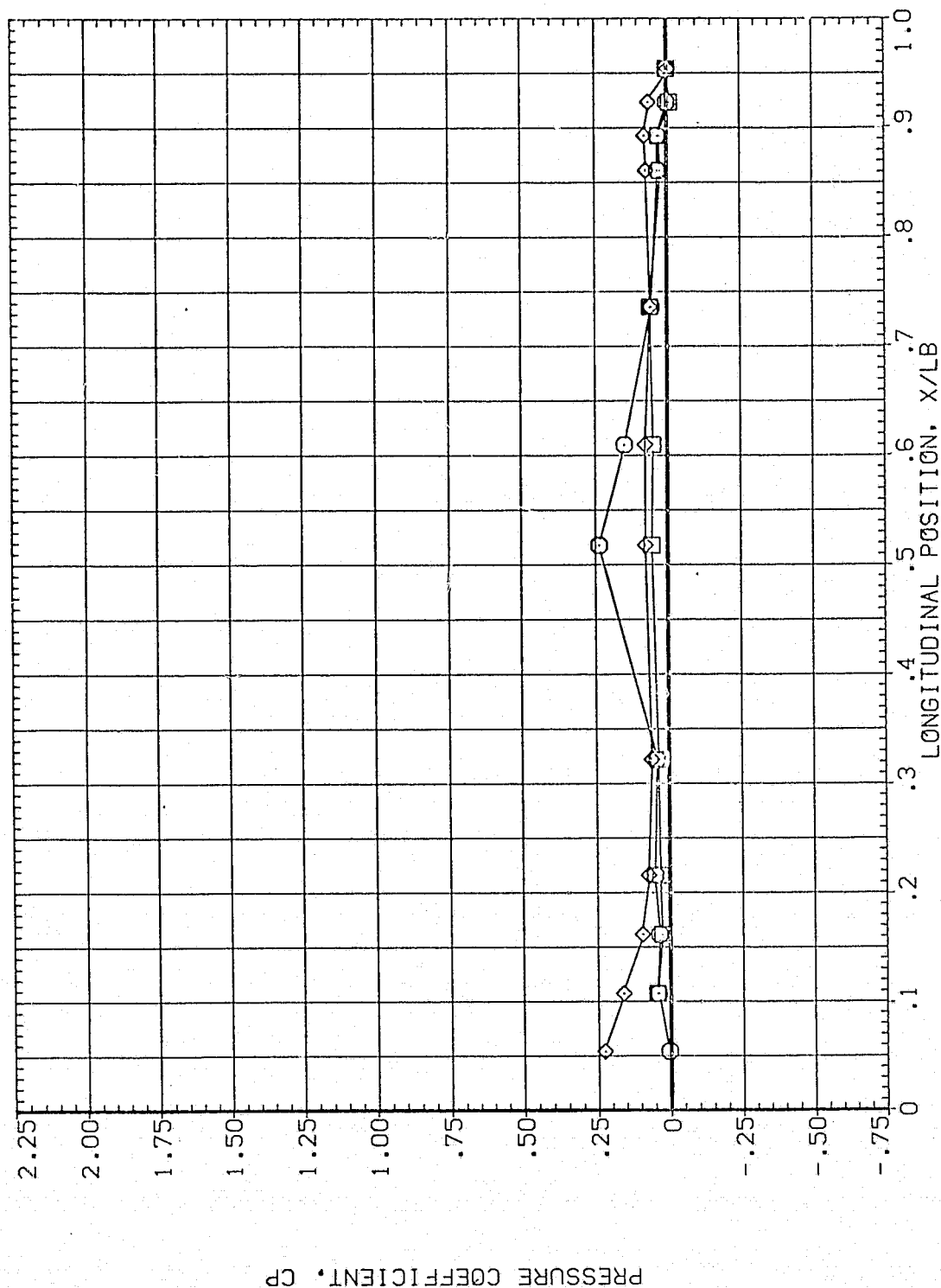


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 76 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	60.000
○	112.500	57.130	4.960	MOUNT	2.000	PHI
□	135.000					
◇	157.500					

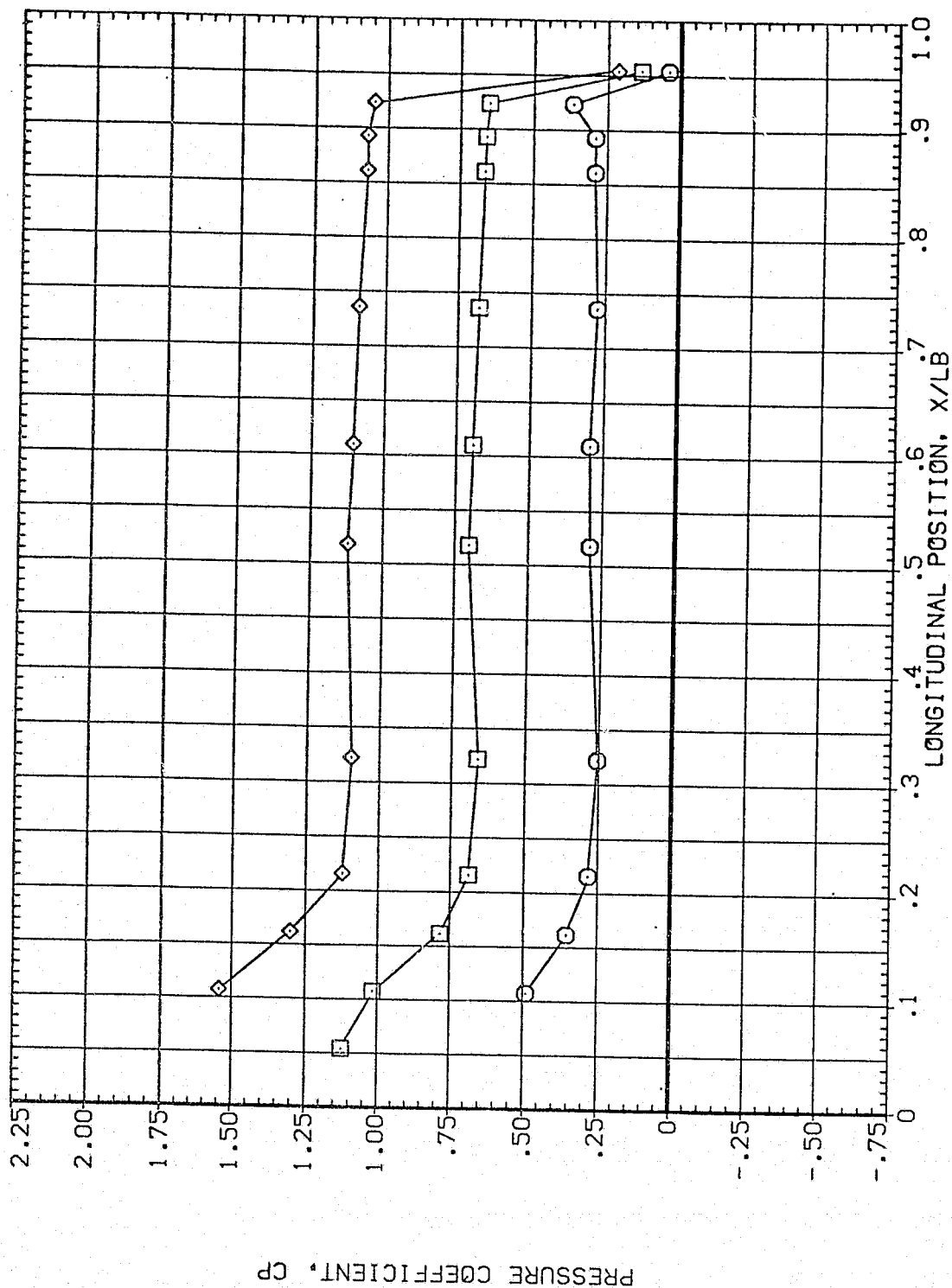


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES
○	180.000	57.130	4.960	BETA .000 OFFSET
□	202.500			2.000 PHI
◇	225.000			60.000 .000

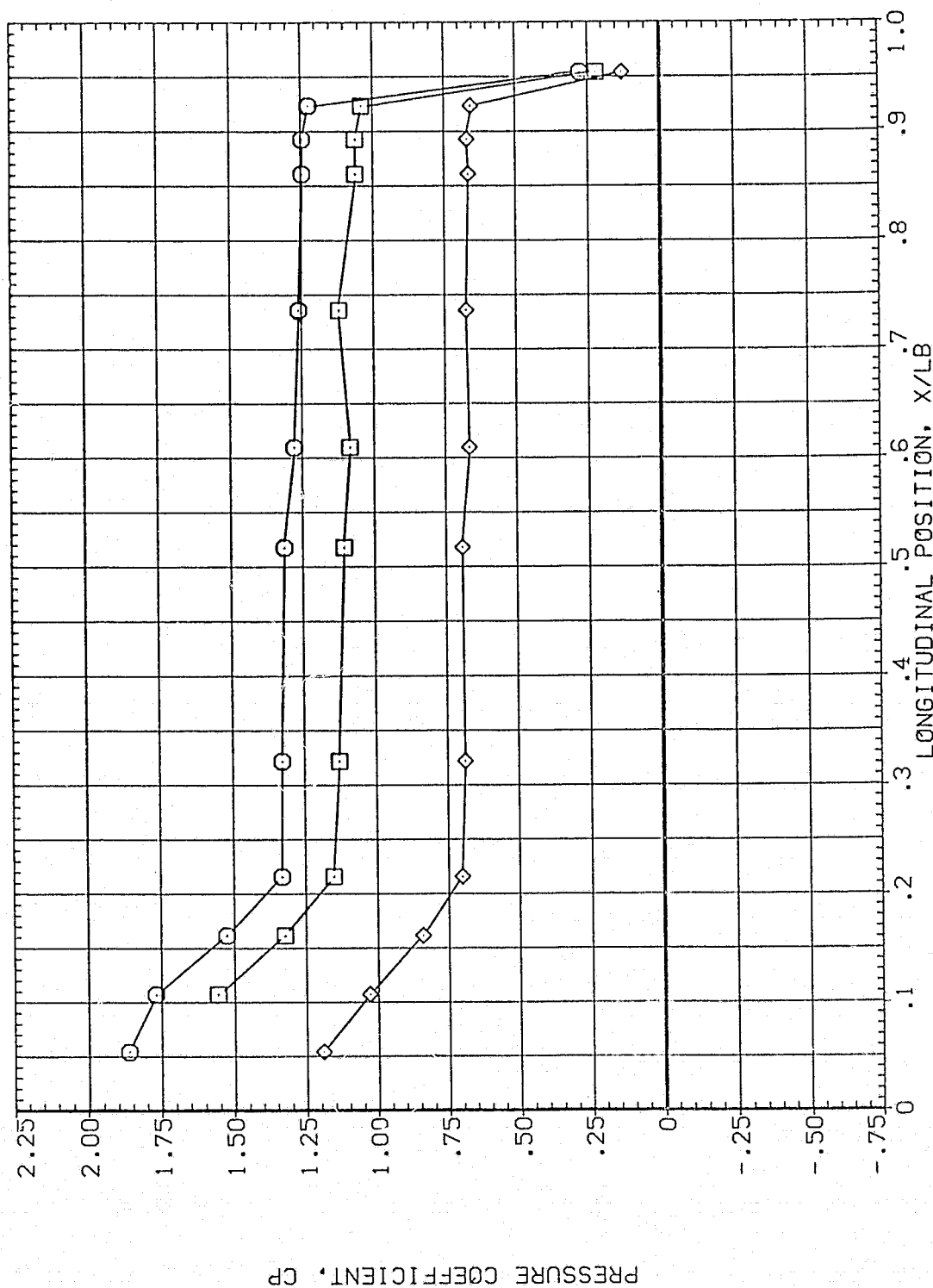


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	50.000
○	247.500	57.130	4.960	2.000	PHI	.000
□	270.000					
◇	292.500					

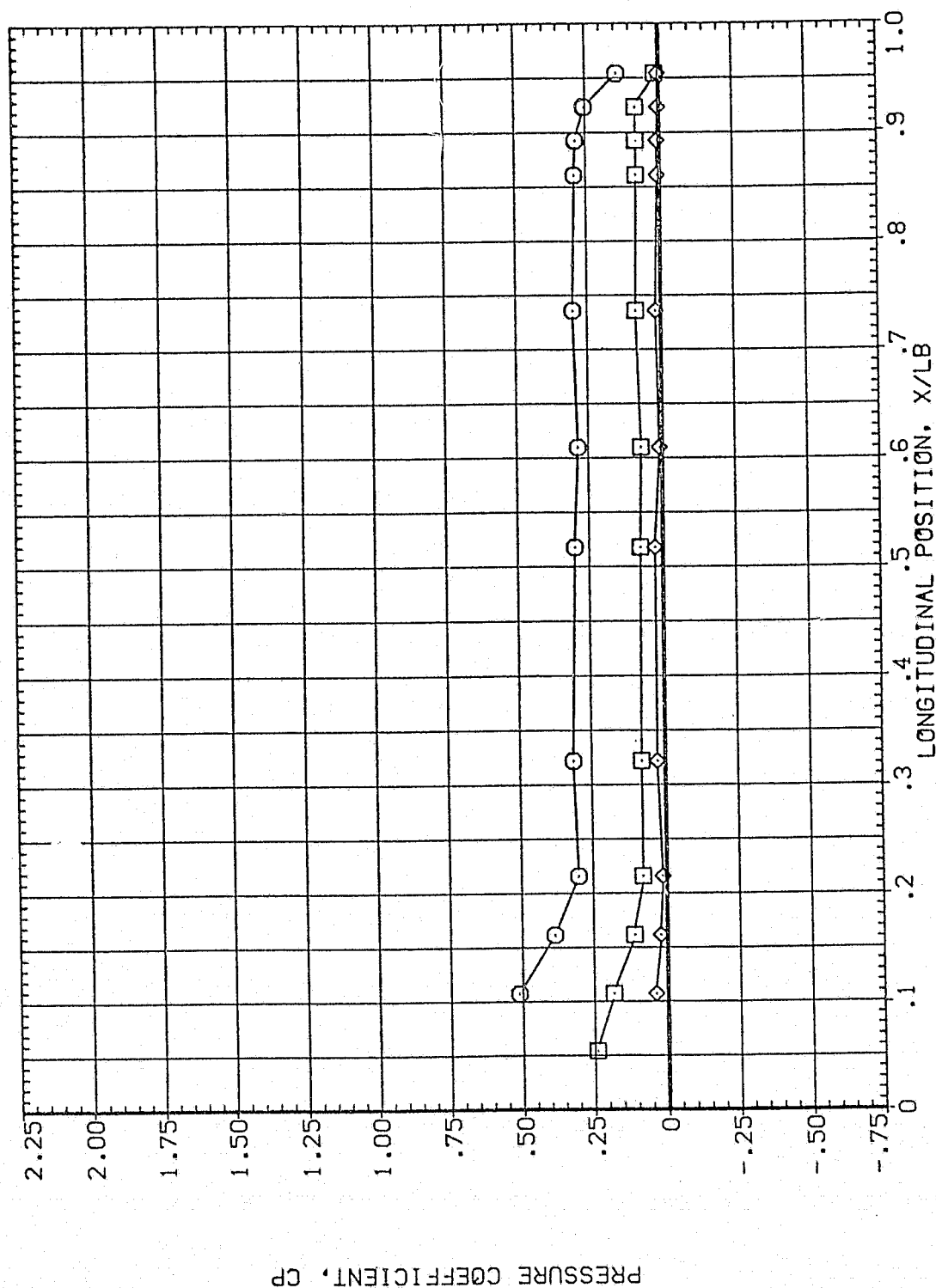


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	57.130	4.960	OUNT	.000 OFFSET
□	326.000				2.000 PHI
◇	346.000				60.000

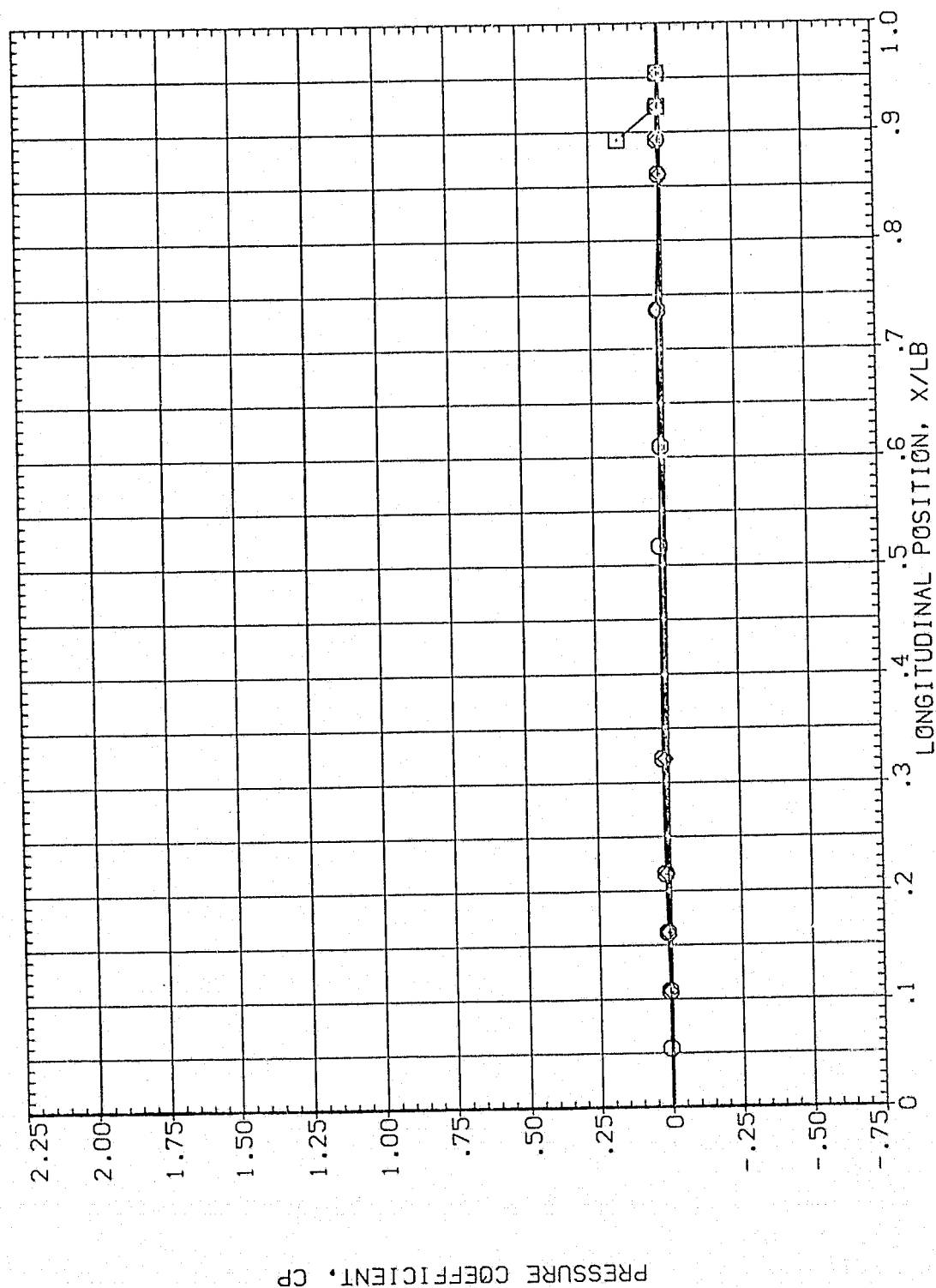


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	THETA	ALPHA	HACH	BETA	PARAMETRIC VALUES
○	.000	60.130	4.960	MOUNT	.000 OFFSET
□	14.000				2.000 PHI
◇	24.000				60.000

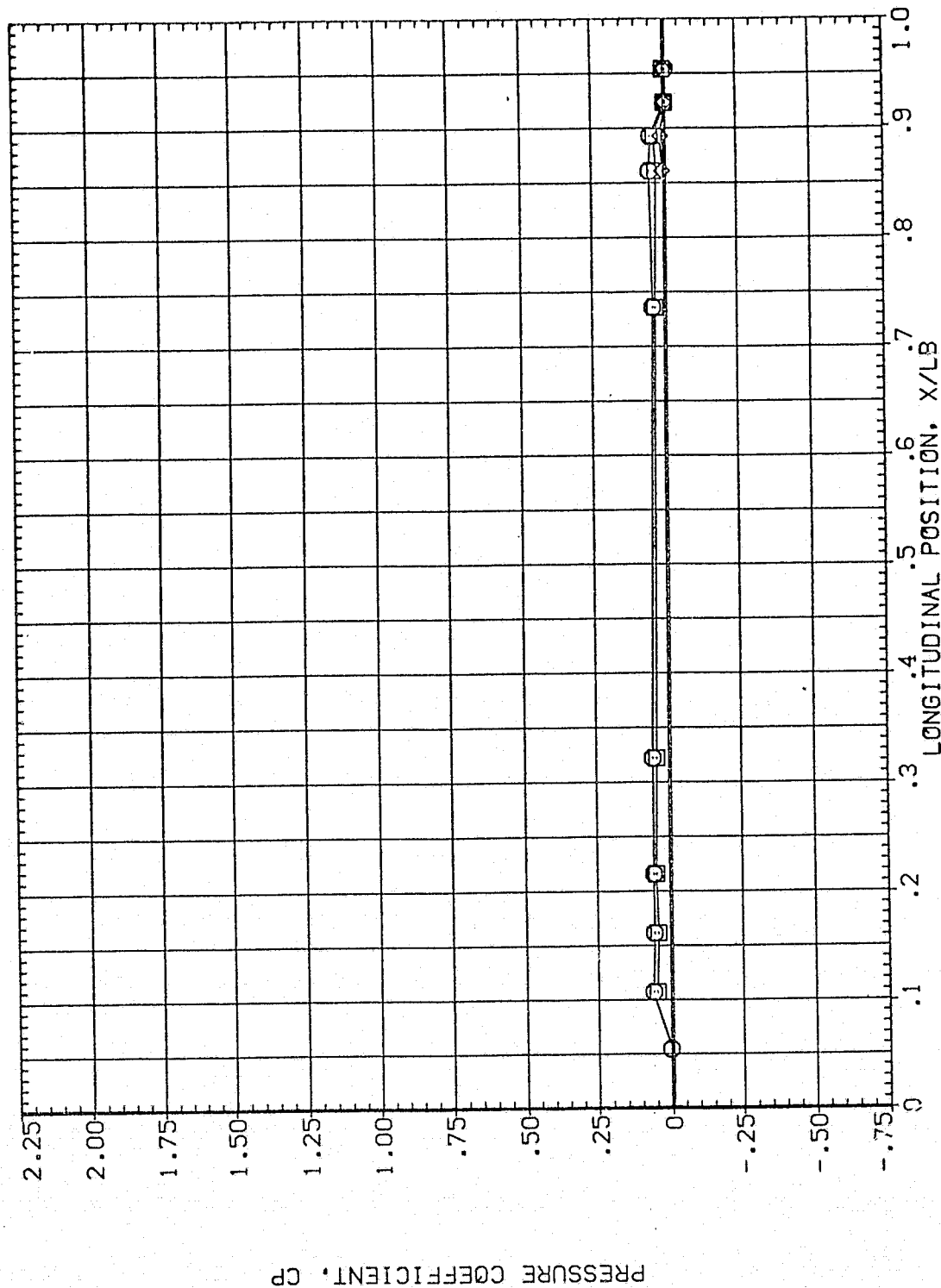


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	THETA		ALPHA	MACH	PARAMETRIC VALUES				
	45.000	60.130	60.130	4.960	BETA	.000	OFFSET	60.000	
○	67.500				MOUNT	2.000	PHI	.000	
□	90.000								
◇									

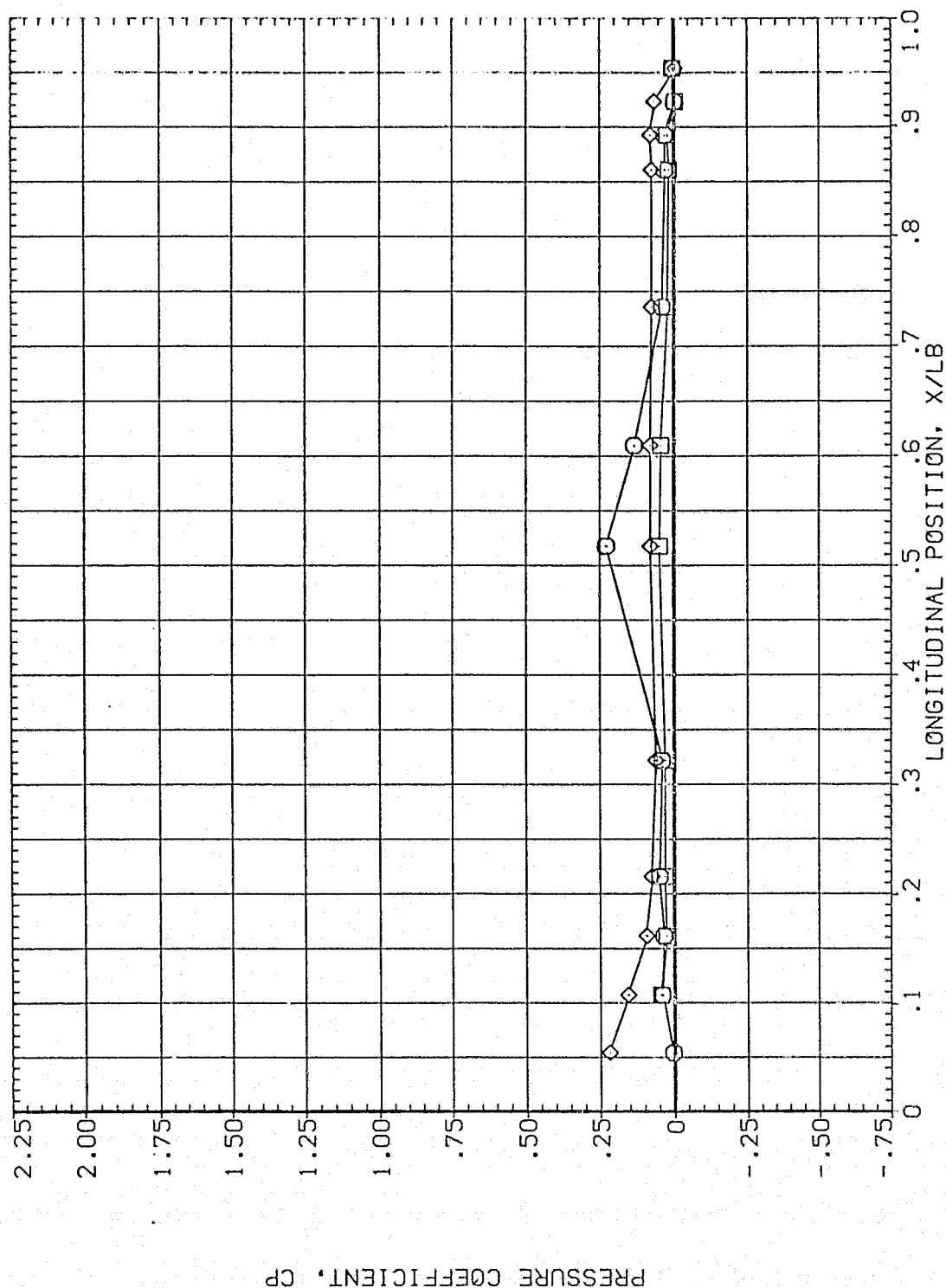


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	60.130	4.960	HOUNT	2.000	.000
□	135.000					
◇	157.500					

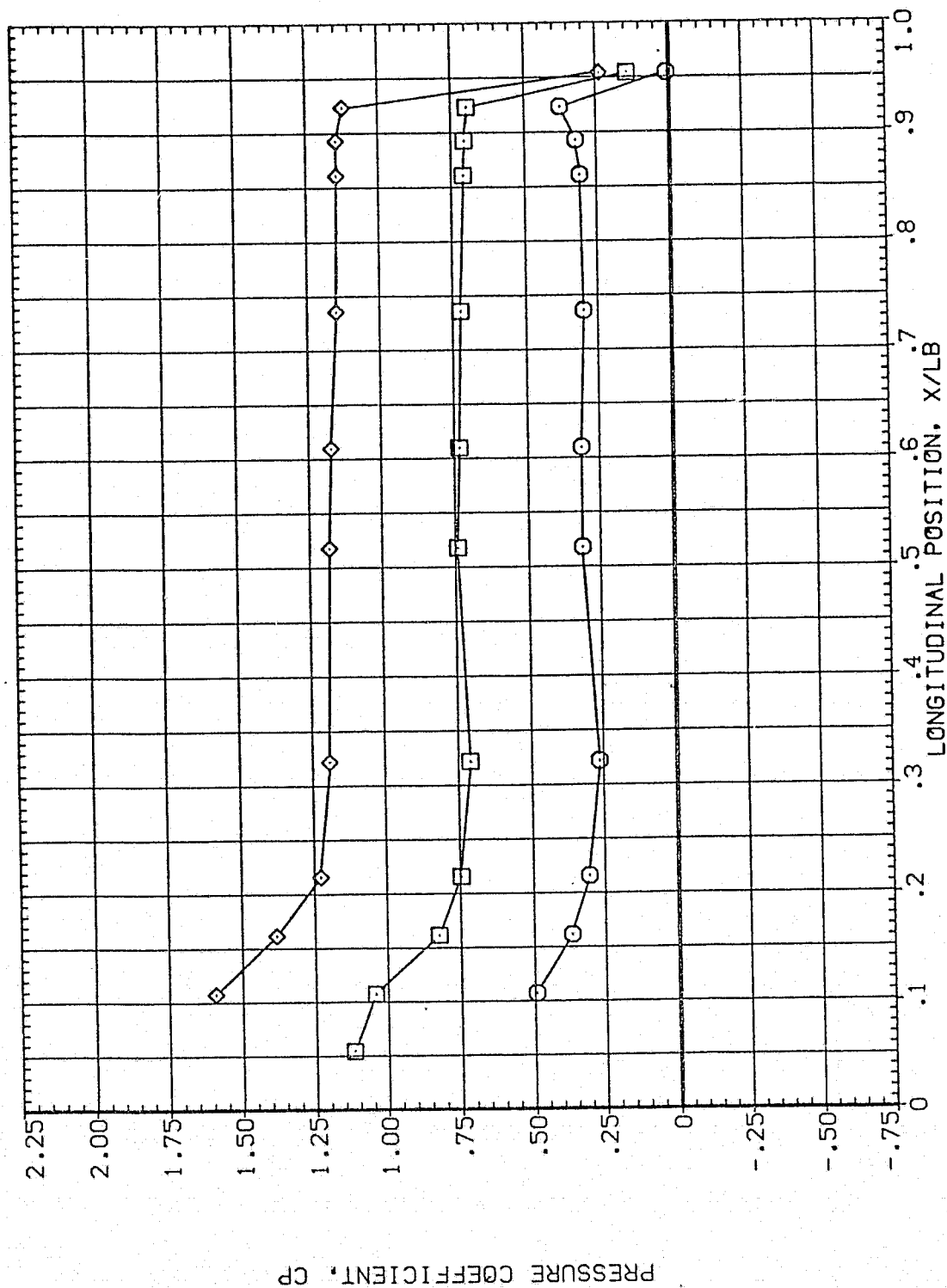


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	60.130	4.960	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				60.000

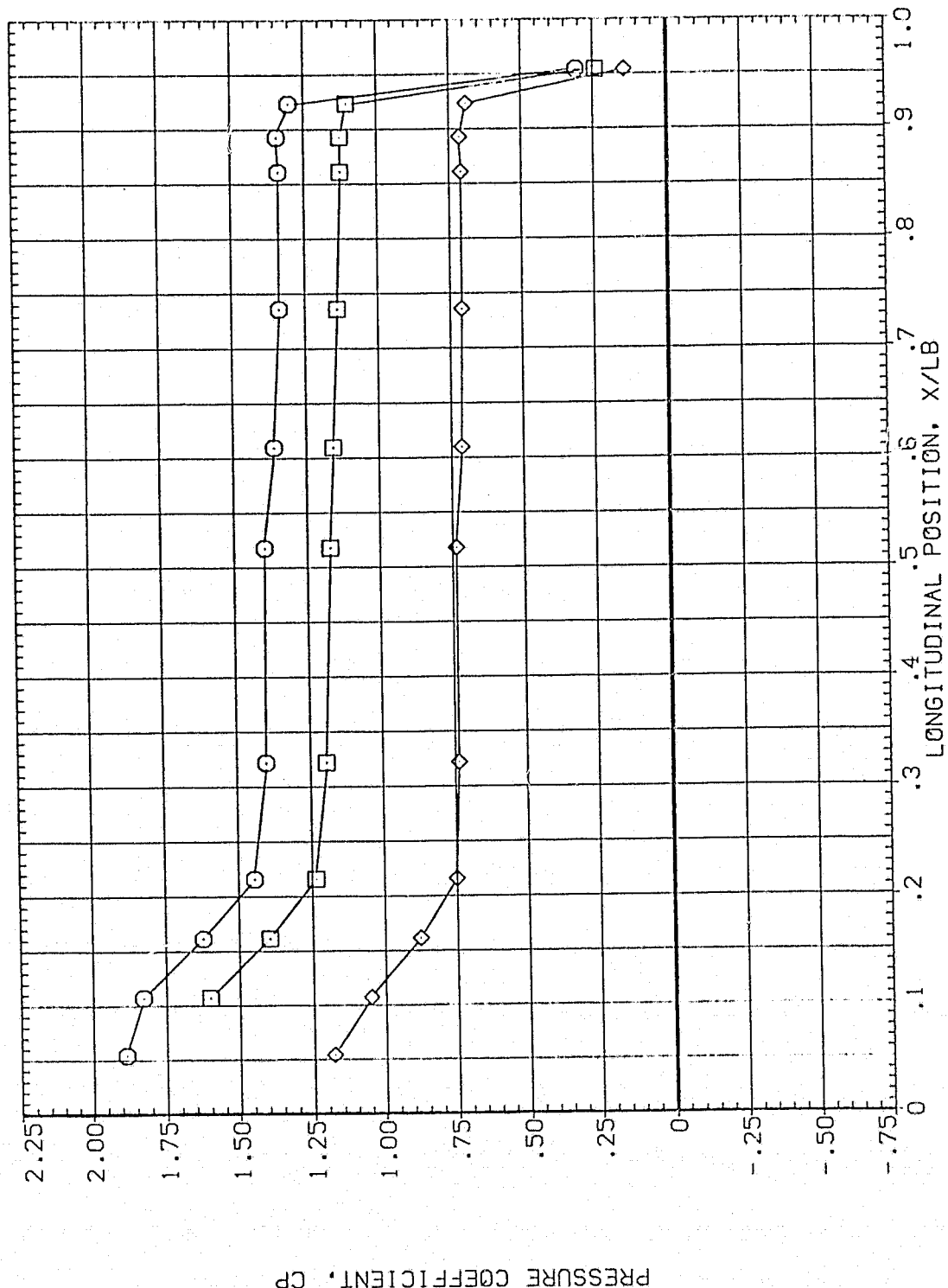


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	THETA	ALPHA	HACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	60.130	4.960	.000	.000	.000
□	270.000			2.000		
◇	292.500					

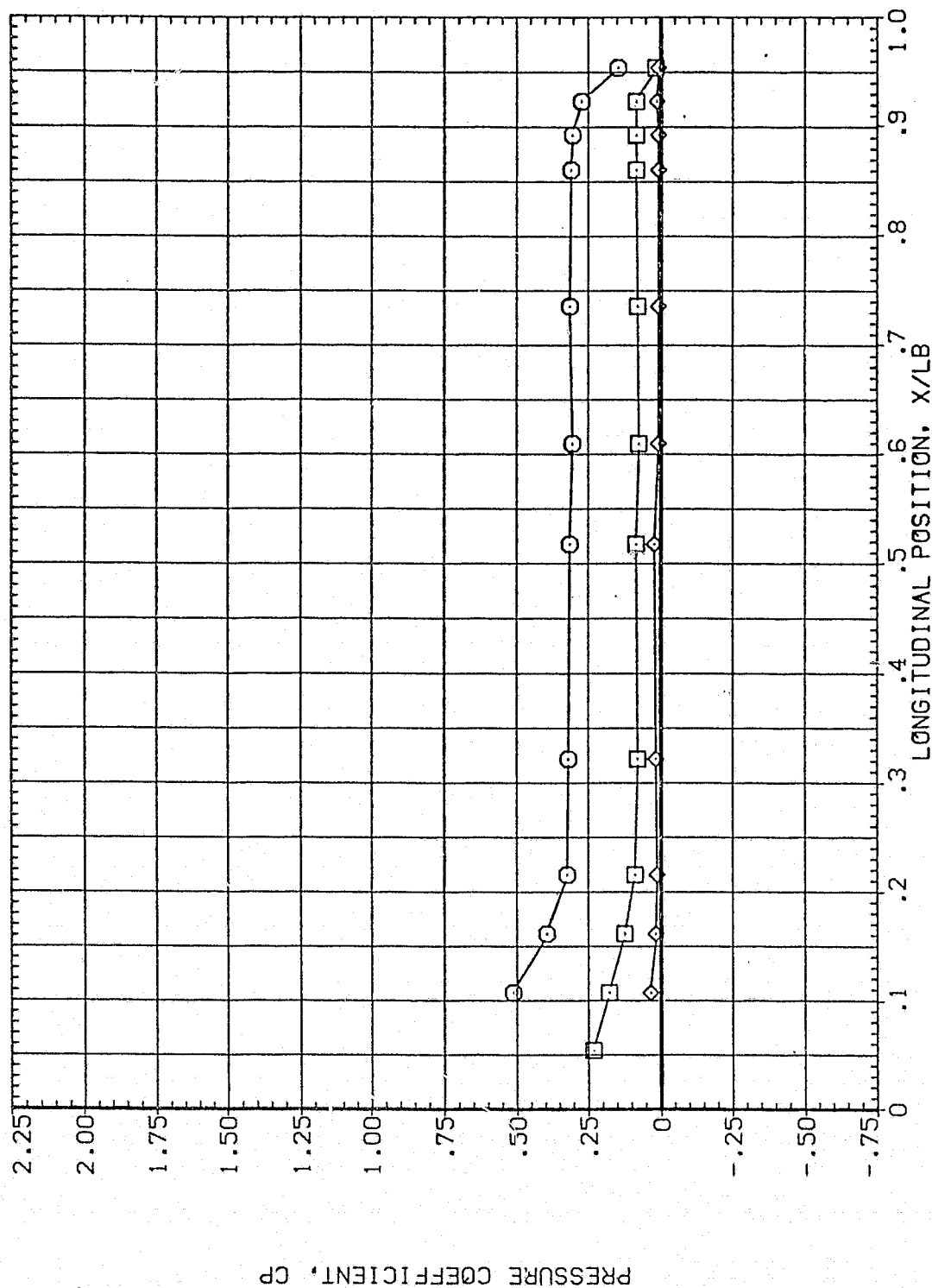


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	315.000	60.130	4.960	MCOUNT	.000	60.000
□	326.000				2.000	
◇	346.000					.000

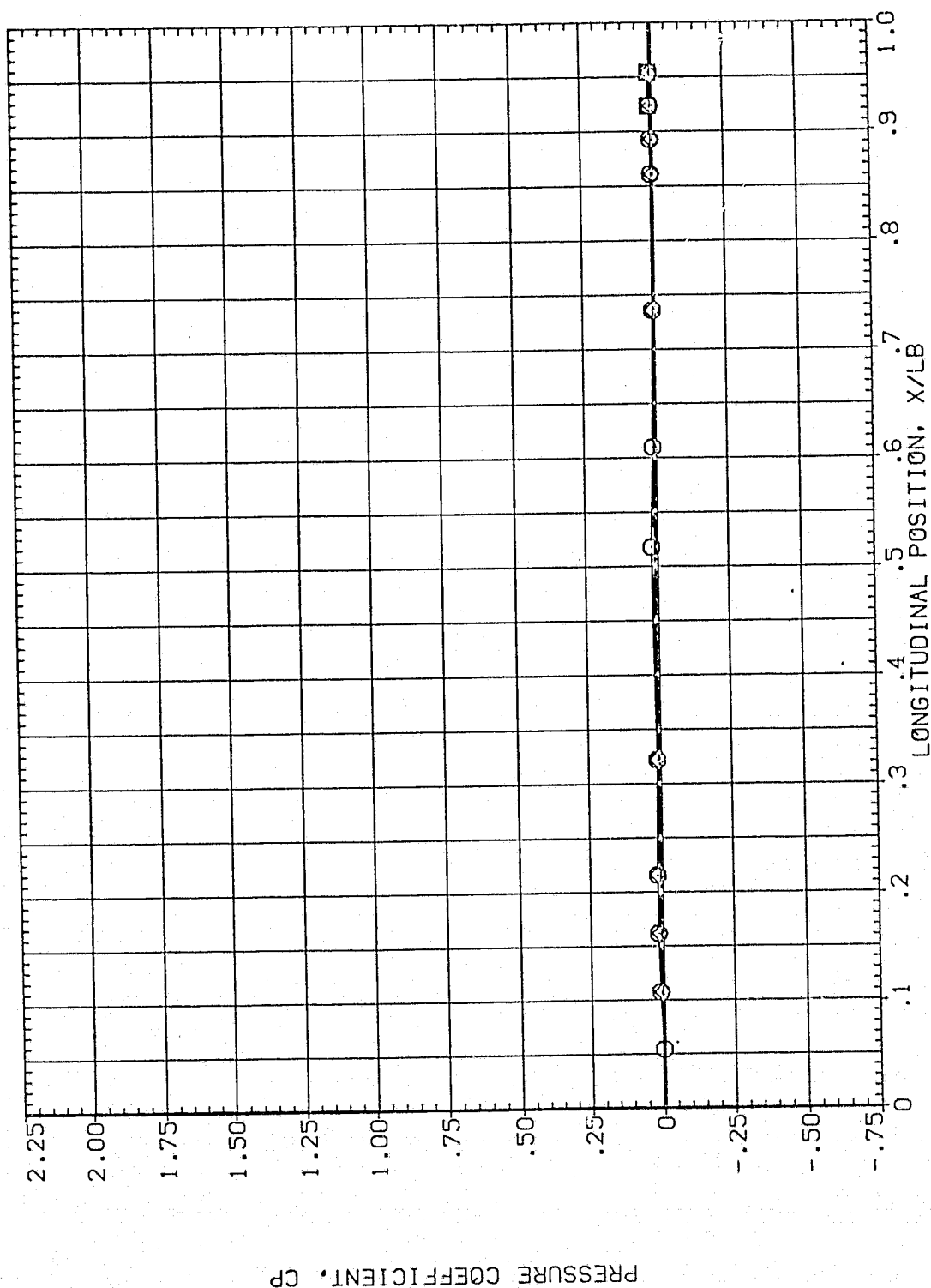


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 PHI 60.000  
 OFFSET .000

SYMBOL THETA ALPHA MACH  
 O .000 63.130 4.960  
 □ 14.000  
 ◇ 24.000

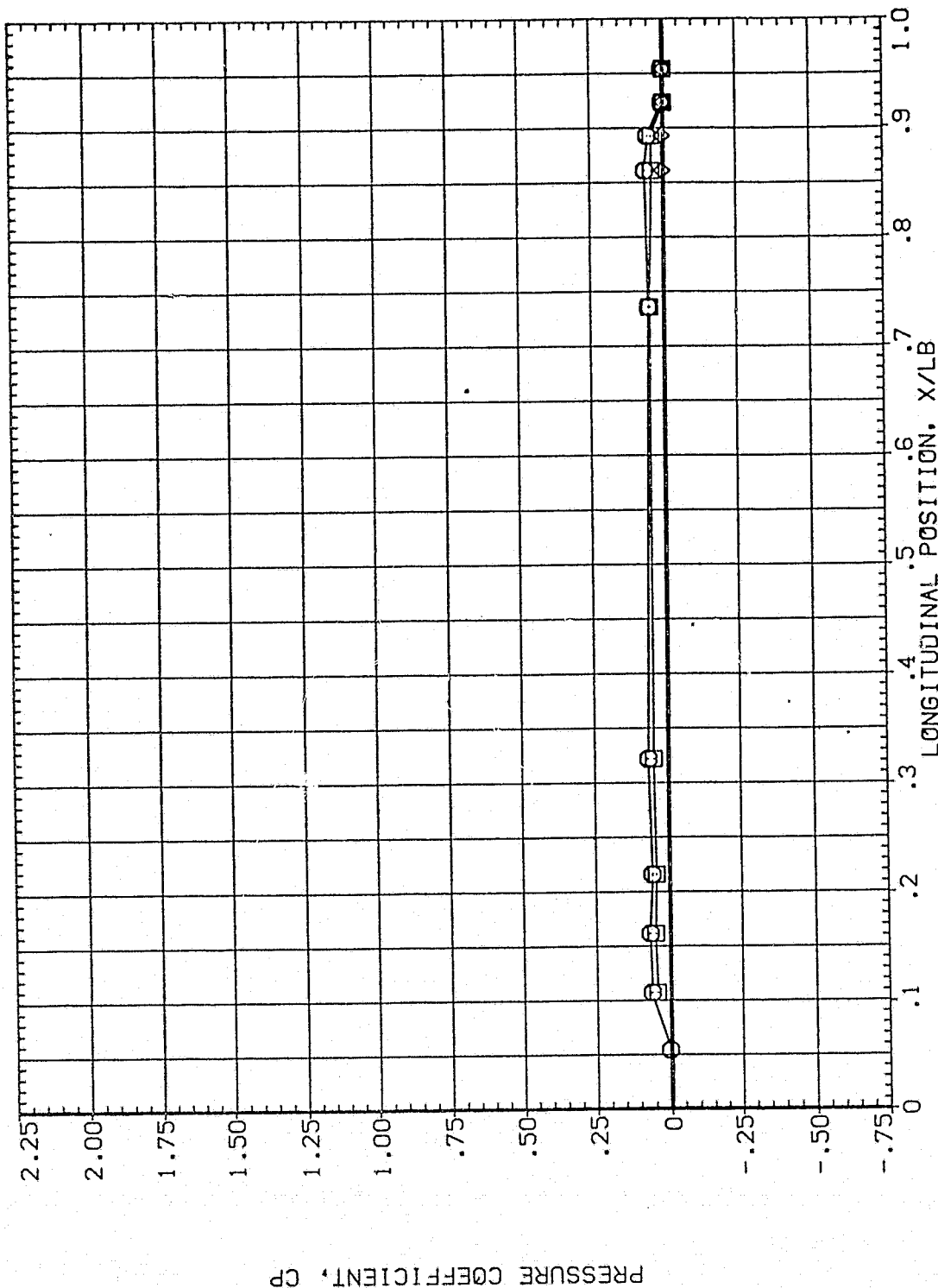


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(PIA065)

SYMBOL

THETA

ALPHA

MACH

45.000

63.130

4.960

67.500

90.000

◇

□

○

PARAMETRIC VALUES

BETA

2.000

OFFSET

.000

PHI

60.000

.000

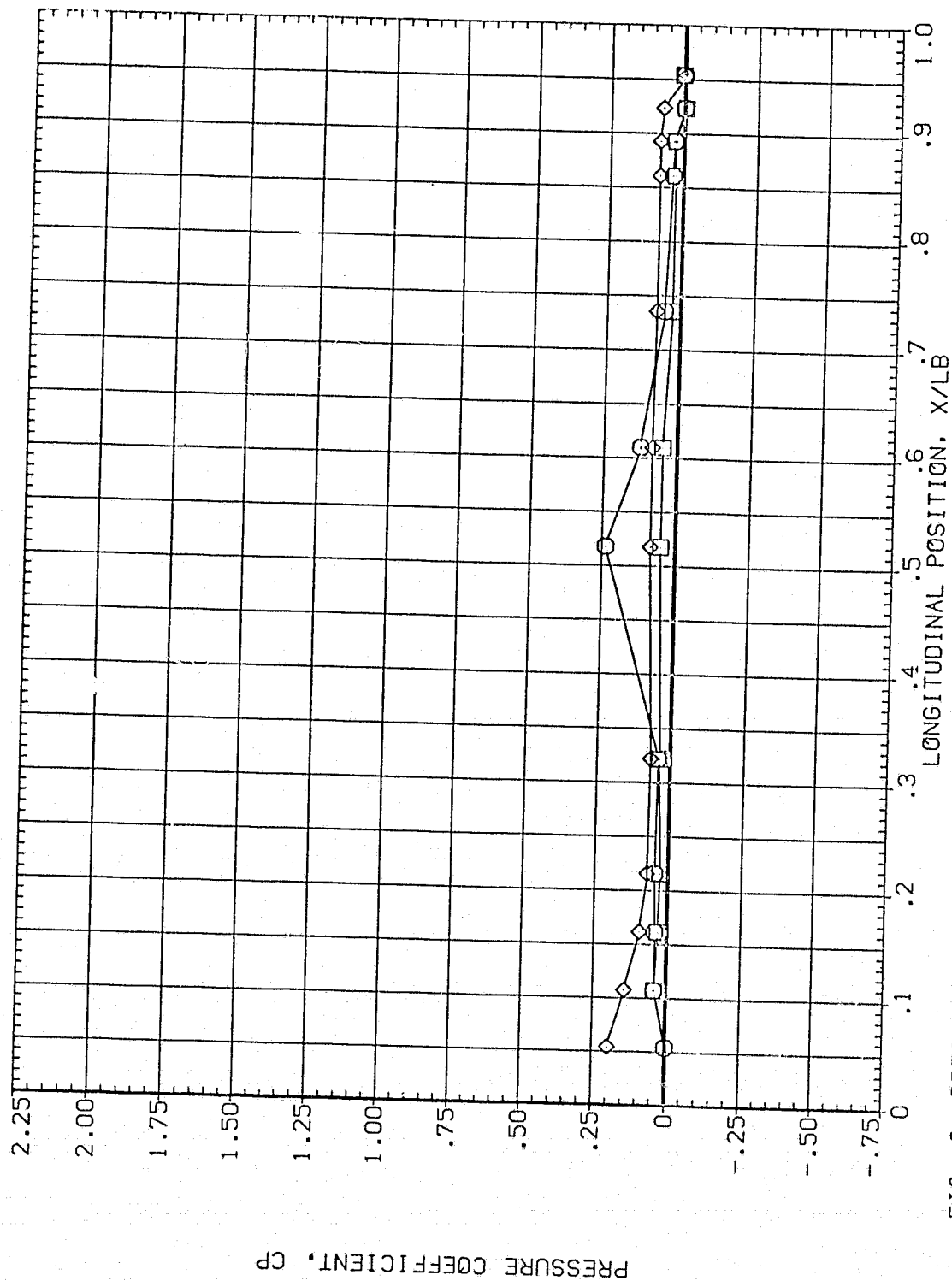


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	63.130	4.960	.000	.000	60.000
□	135.000			2.000		
◇	157.500					

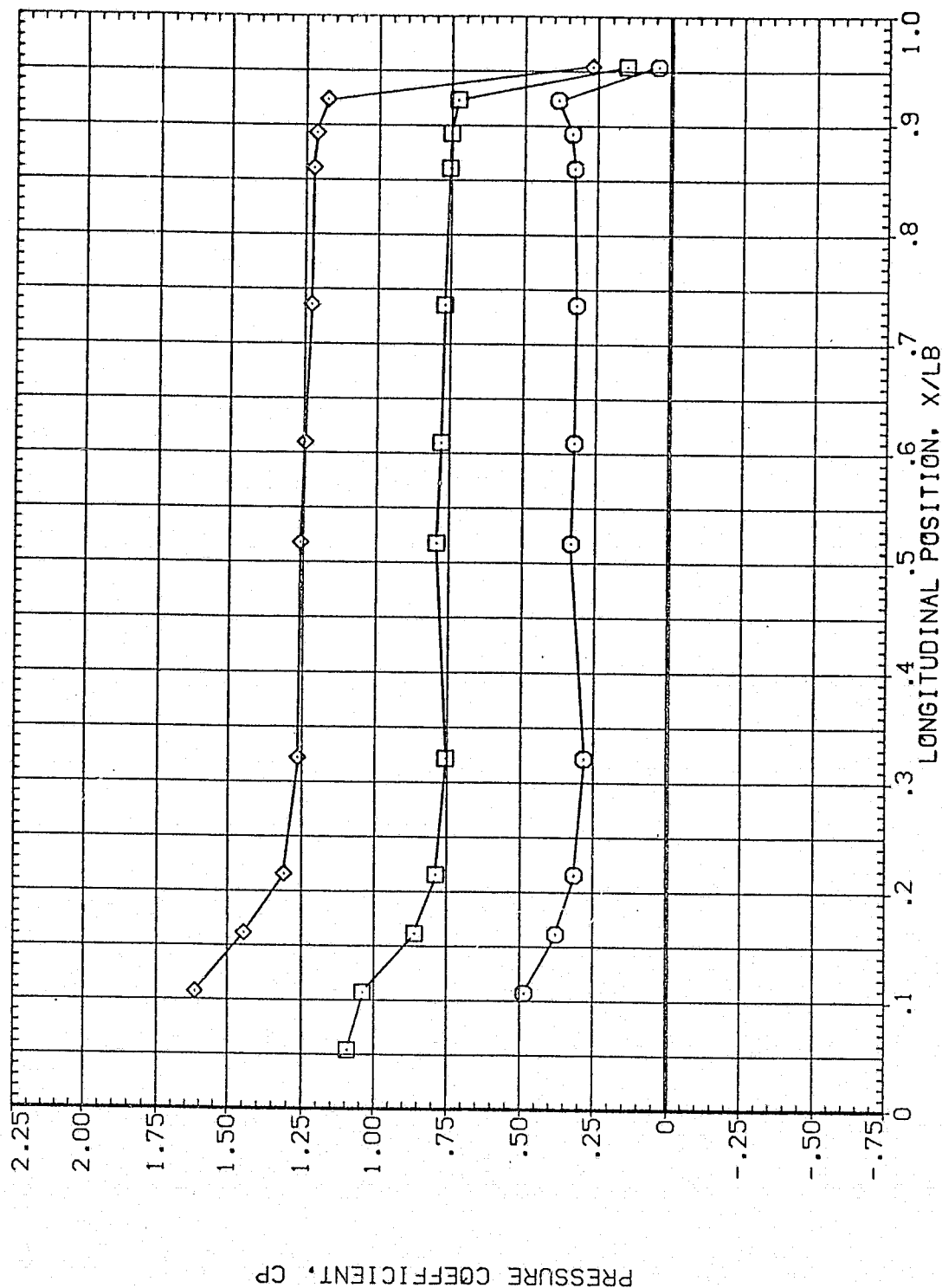


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	63.130	4.960	MOUNT	.000
□	202.500			OFFSET	2.000
◇	225.000			PHI	.000

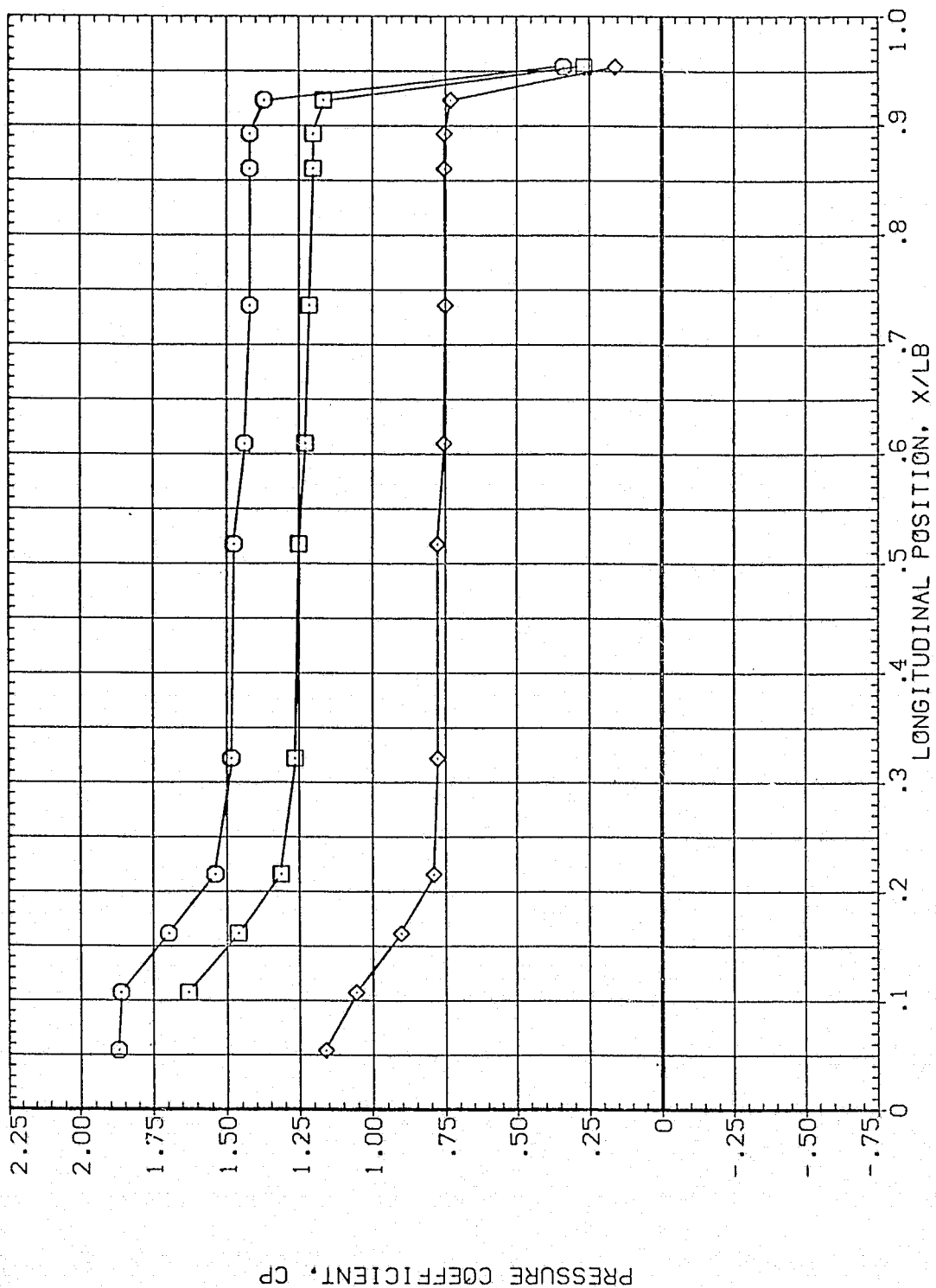


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI .000

THETA ALPHA MACH  
 247.500 63.130 4.960  
 270.000  
 292.500

SYMBOL  
 ○  
 □  
 ◇

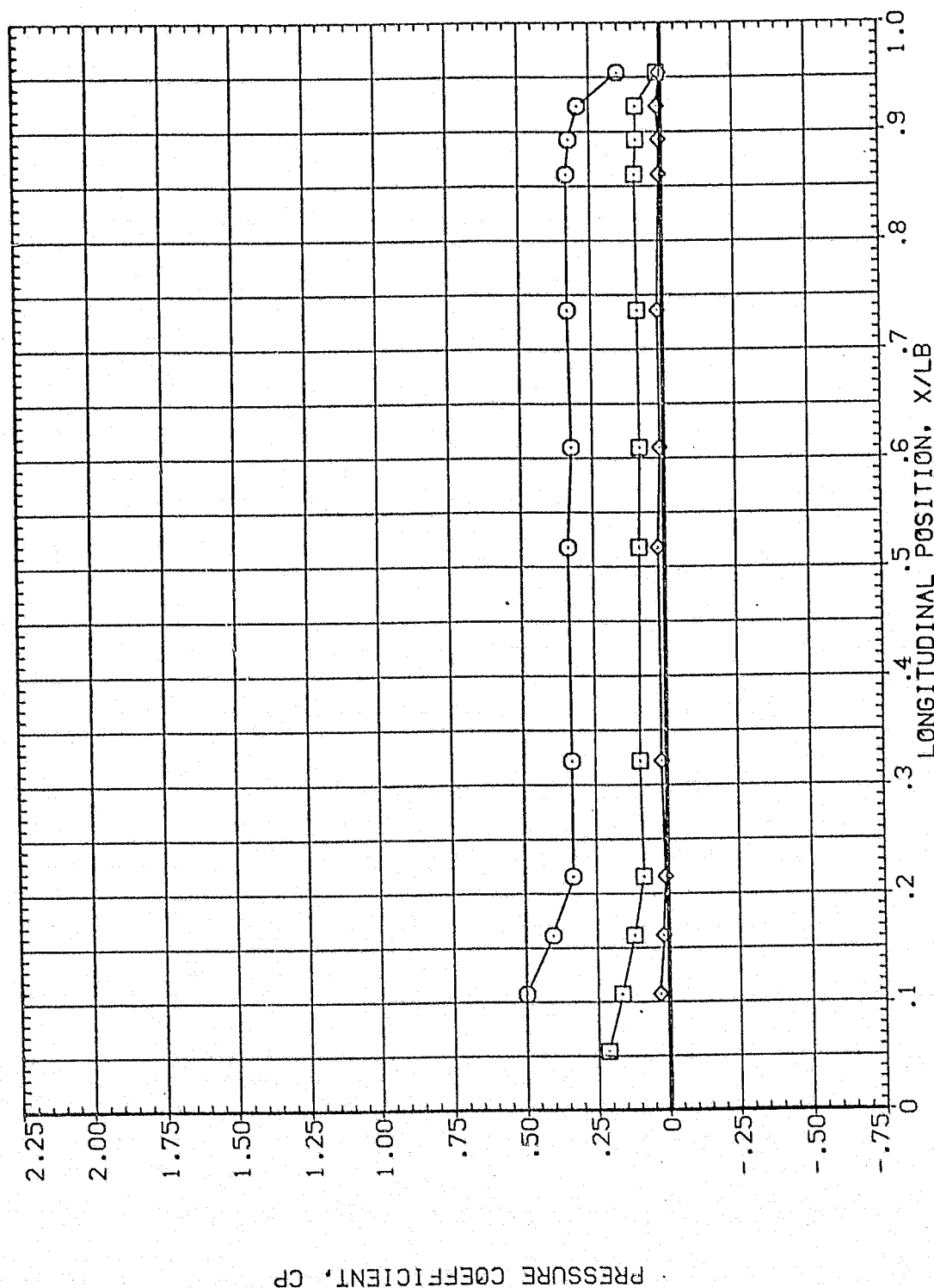


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	315.000	63.130	4.950	MCOUNT	.000
□	326.000			PHI	50.000
◇	346.000				.000

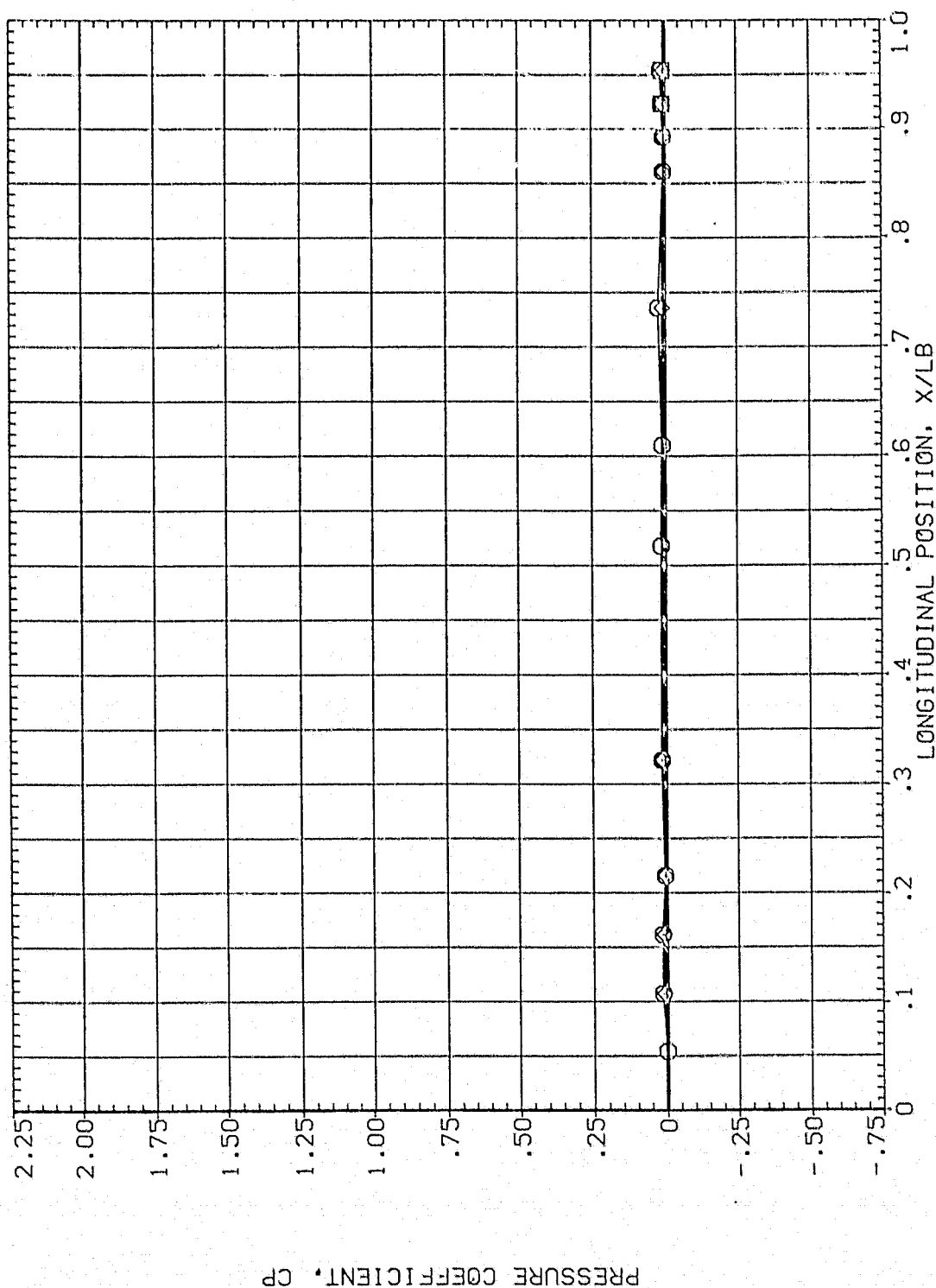


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

PARAMETRIC VALUES  
 BETA .000  
 HOUNT 2.000  
 OFFSET PHI 60.000  
 .000

SYMBOL  
 THETA .000  
 ALPHA 66.130  
 MACH 4.960  
 14.000  
 24.000

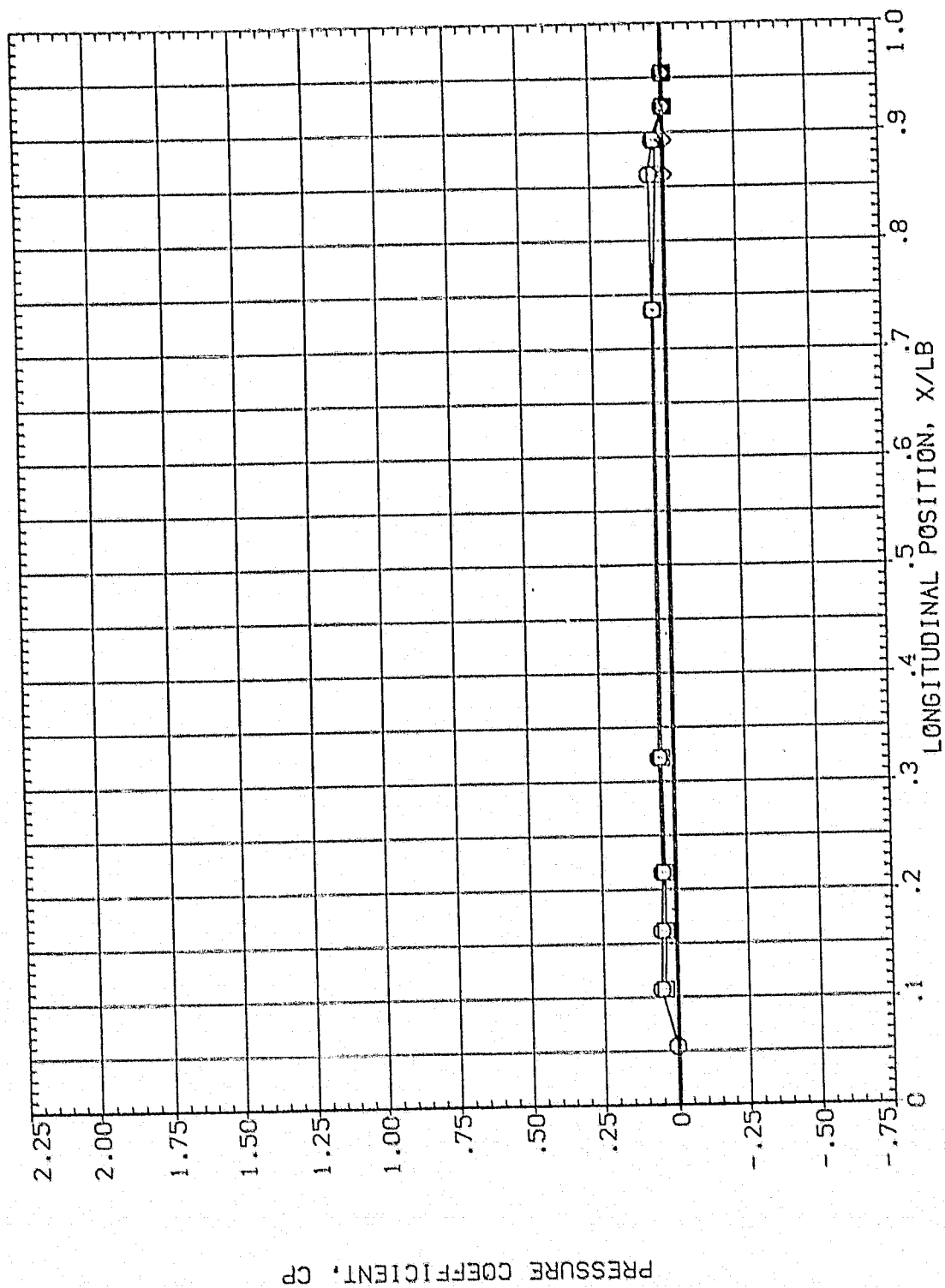


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	66.130	4.960	MOUNT	.000
□	67.500			PHI	2.000
◇	90.000				.000

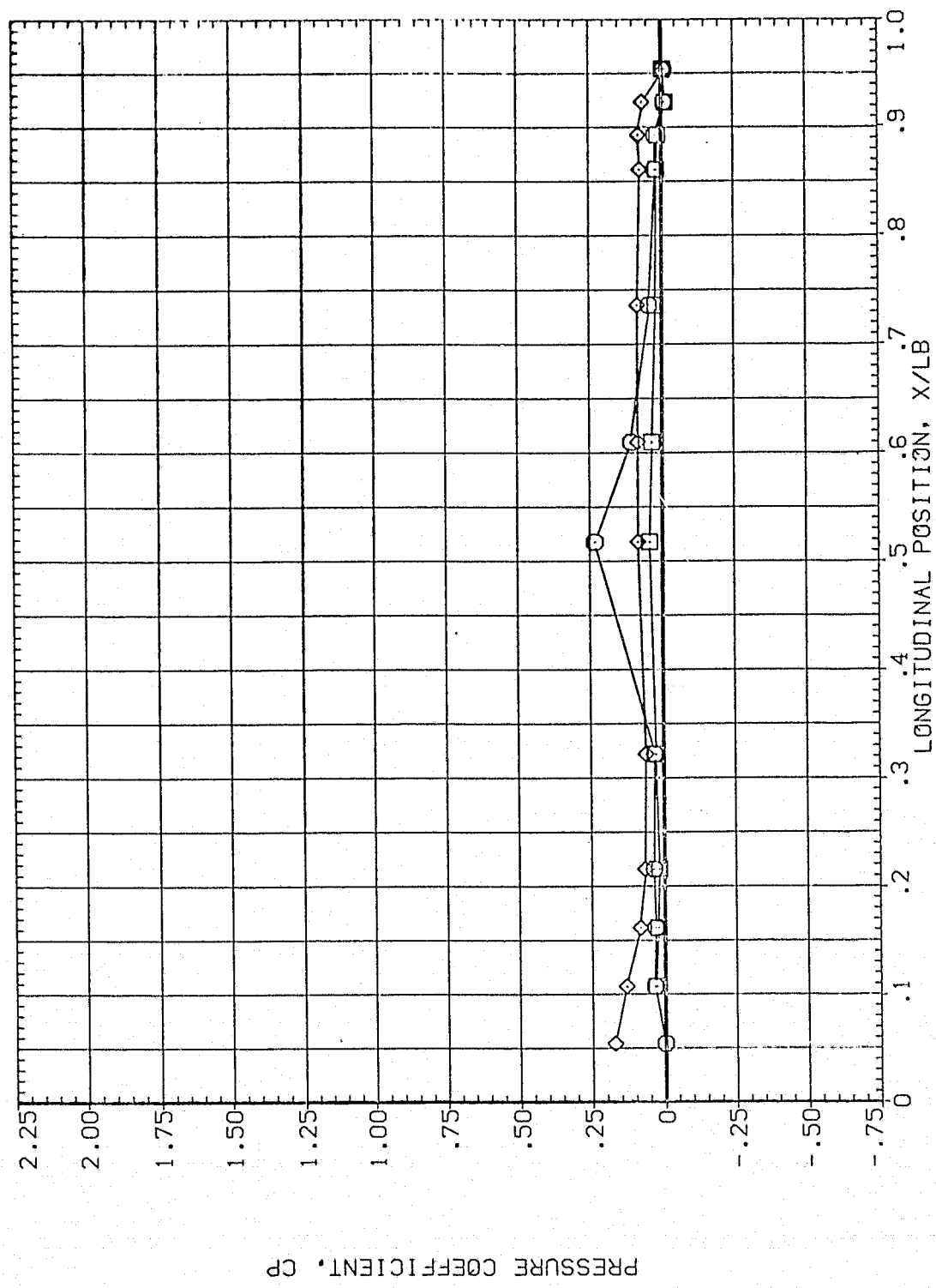


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	112.500	66.130	4.960	MOUNT	.000 OFFSET
□	135.000				2.000 PHI
◇	157.500				60.000

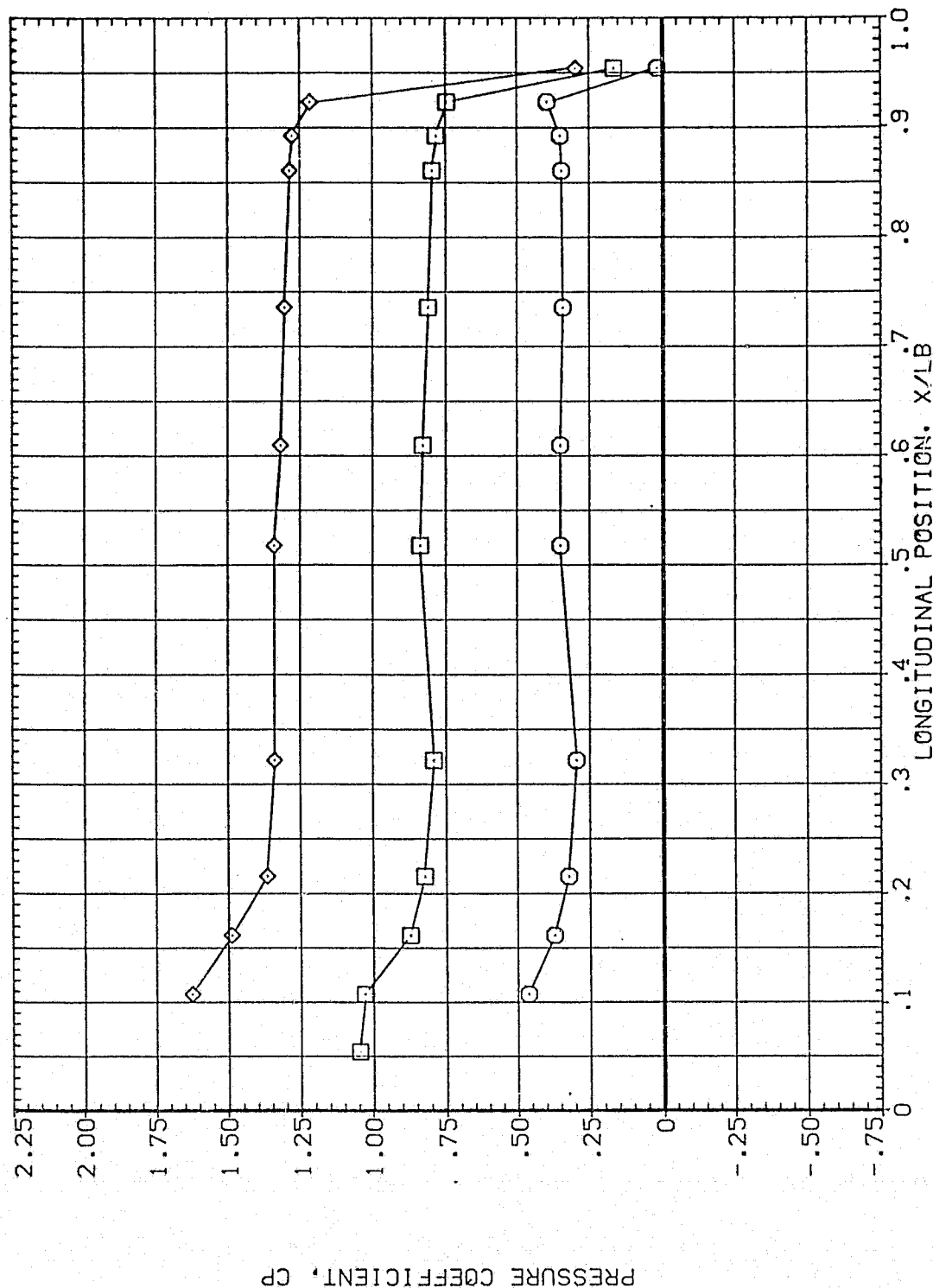


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	65.130	4.950	MCOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				60.000
					.000

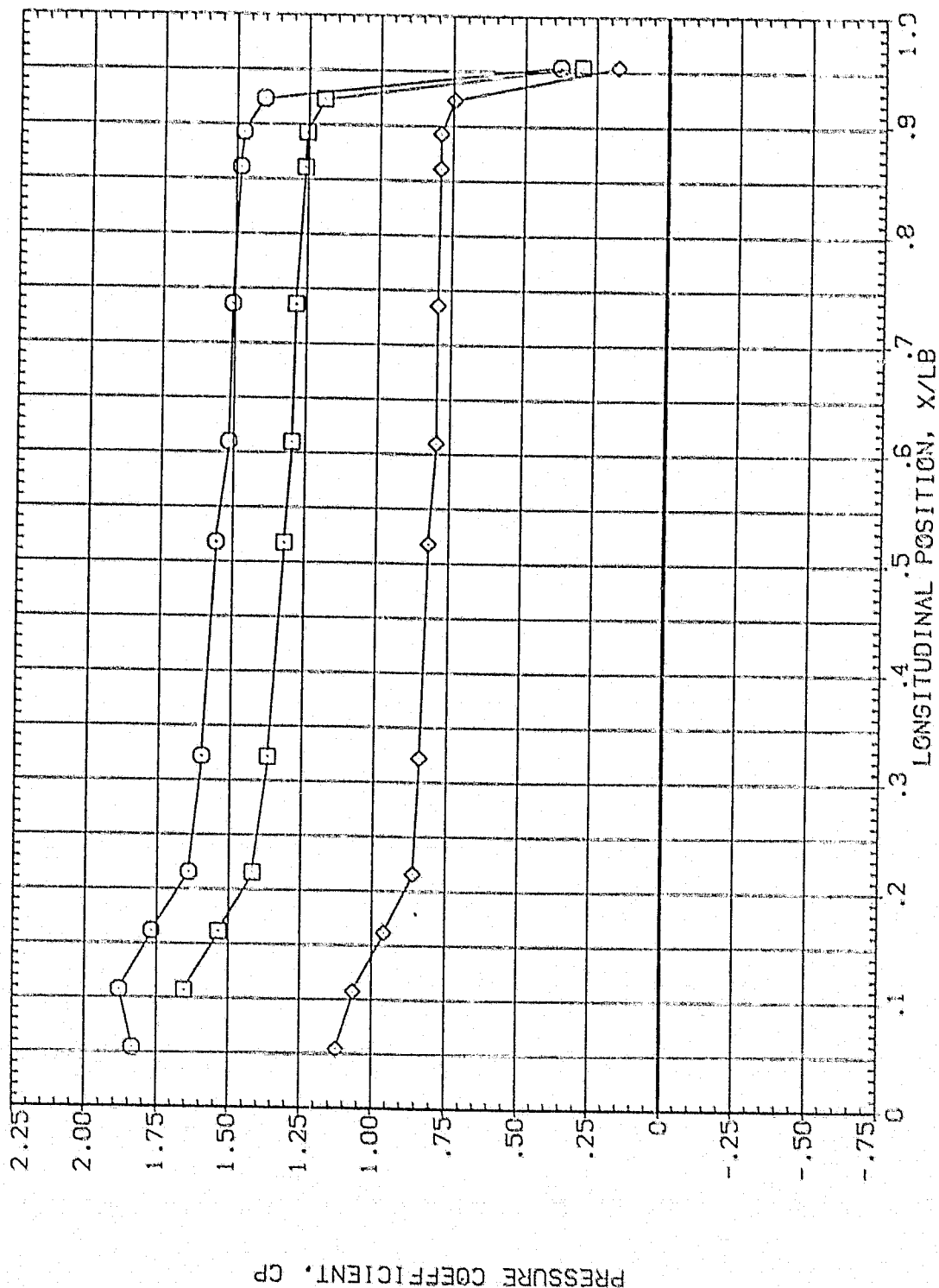


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	THETA		ALPHA	MACH	PARAMETRIC VALUES			
	247.500	270.000	66.130	4.960	BETA	.000	OFFSET	60.000
○	292.500				MOUNT	2.000 <td>PHI</td> <td>.000</td>	PHI	.000
□								
◇								

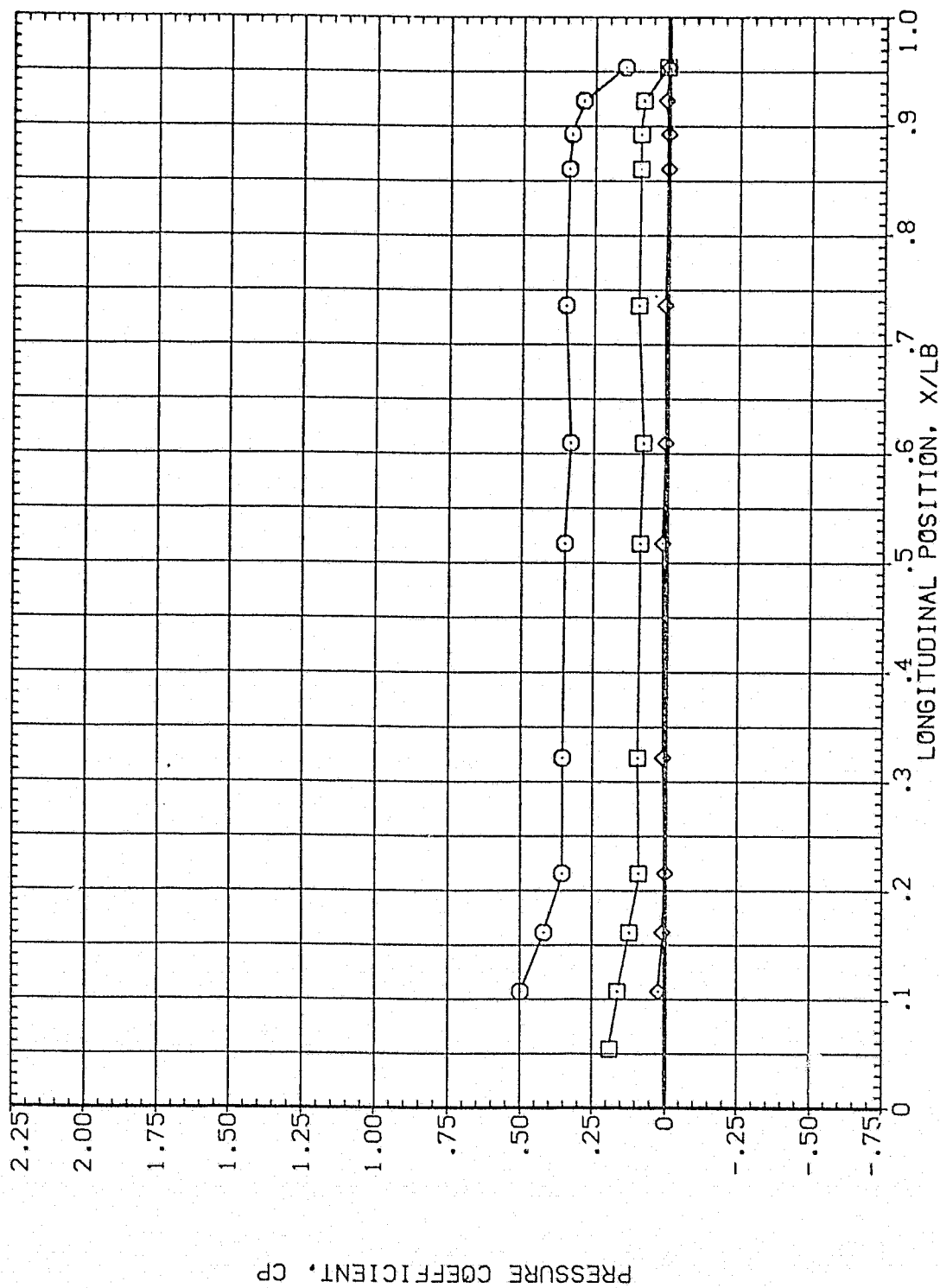


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	315.000	66.130	4.960	MOUNT	.000	60.000
□	326.000				2.000	
◇	346.000					.000

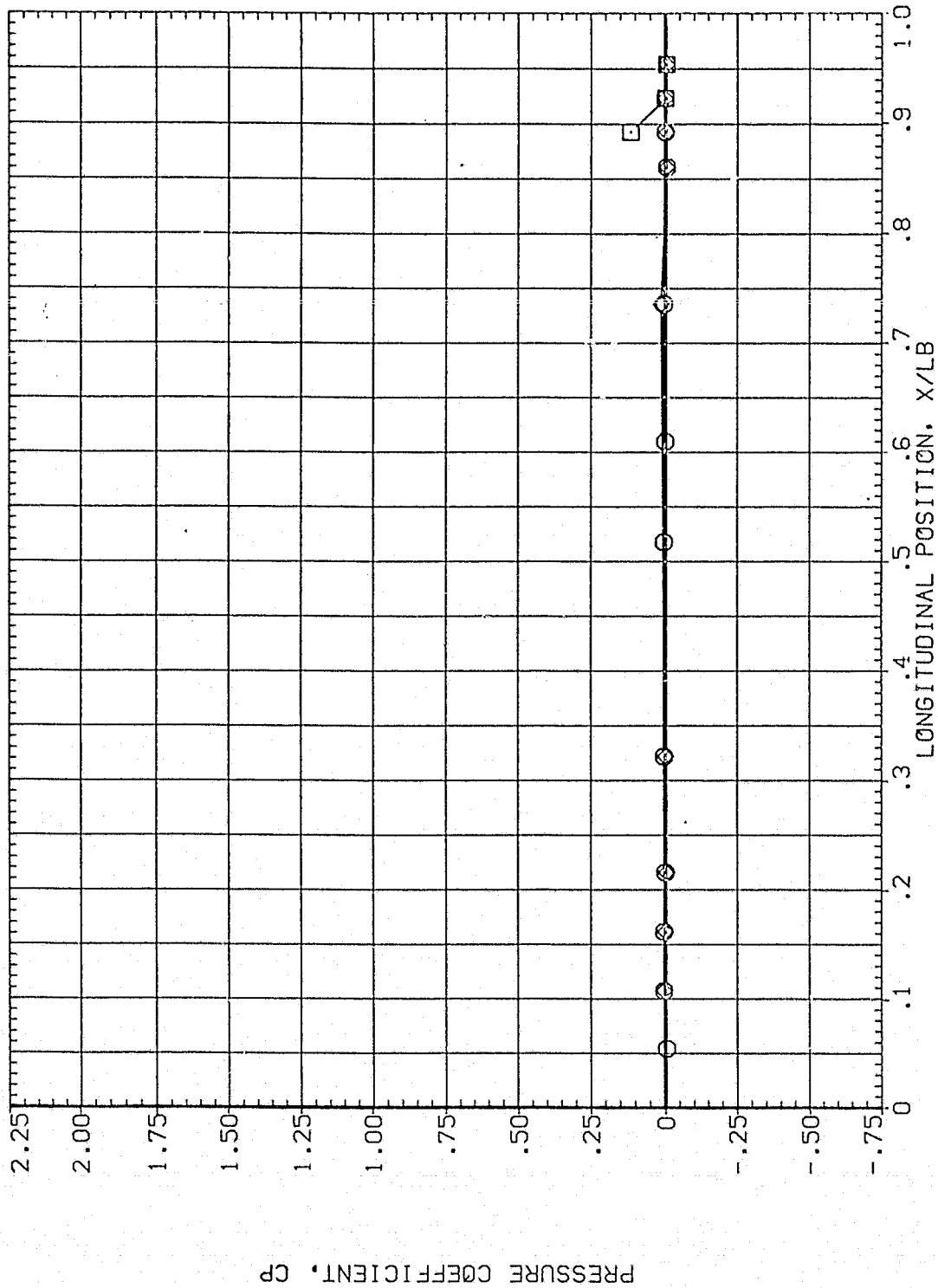


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL	THETA		ALPHA		MACH		BETA		PARAMETRIC VALUES	
	.000	14.000	69.130	24.000	4.960		MOUNT	.000	OFFSET	PHI
○								2.000		60.000
□								.000		.000
◇										

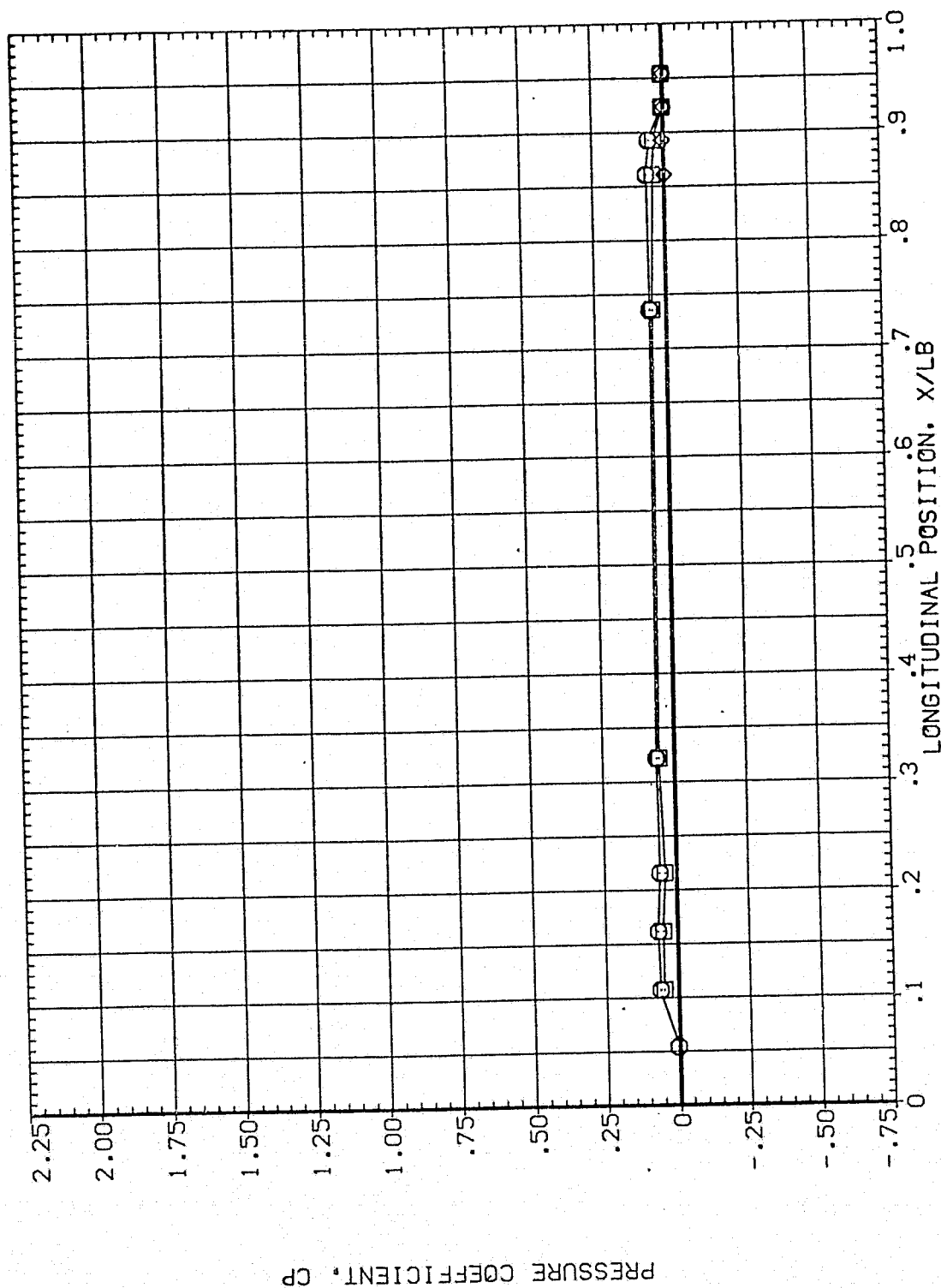


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

[P1A067]

**SYMBOL**

THETA  
45.000  
67.500  
90.000

ALPHA  
69.130

HACH  
4.96

PARAMETRIC VALUES	
.000	OFFSET
2.000	PHI

000-  
000-03

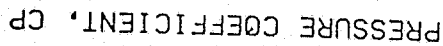


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	112.500	69.130	4.960	MOUNT	.000 OFFSET
□	135.000				2.000 PHI
◇	157.500				60.000 .000

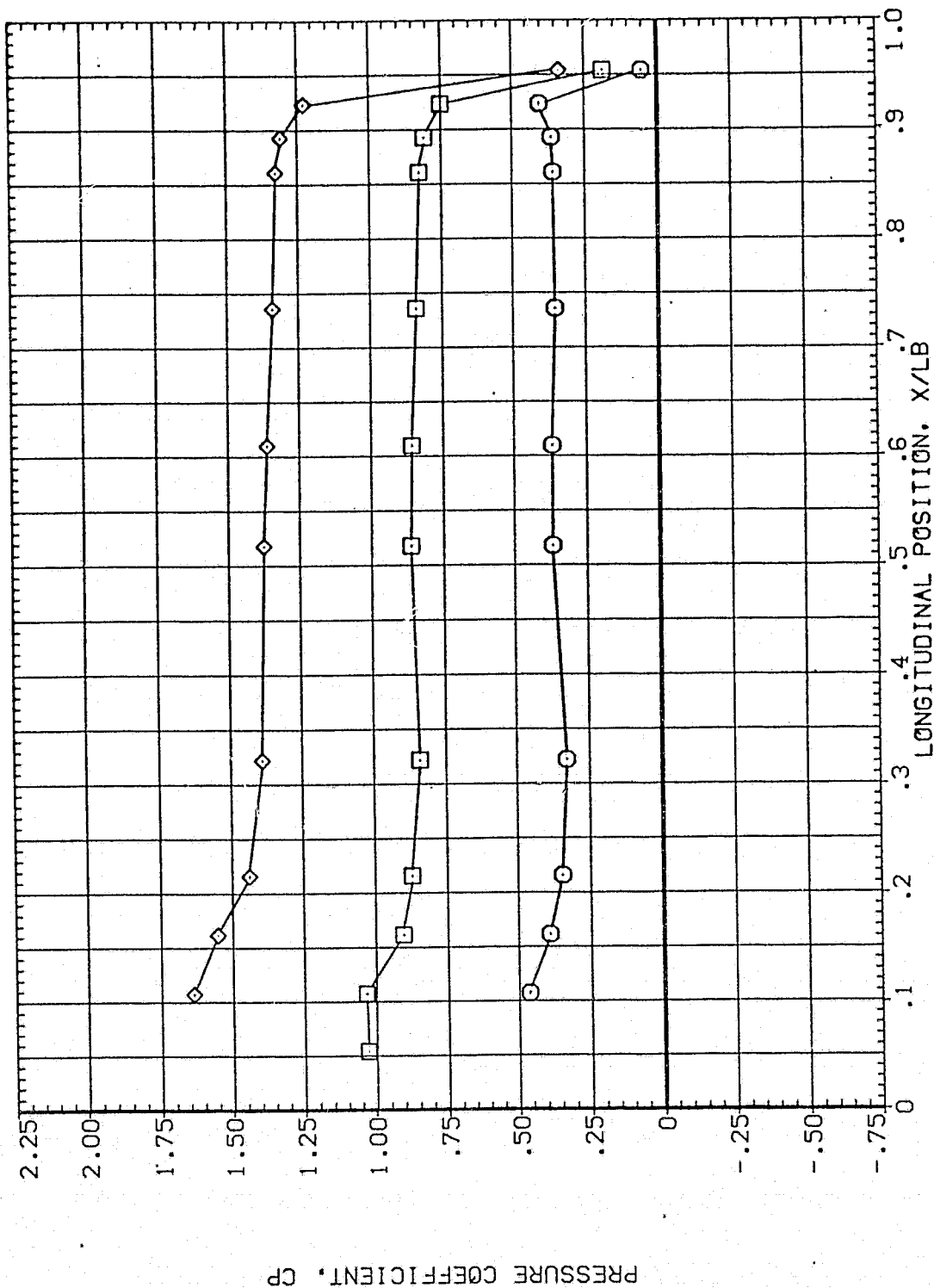
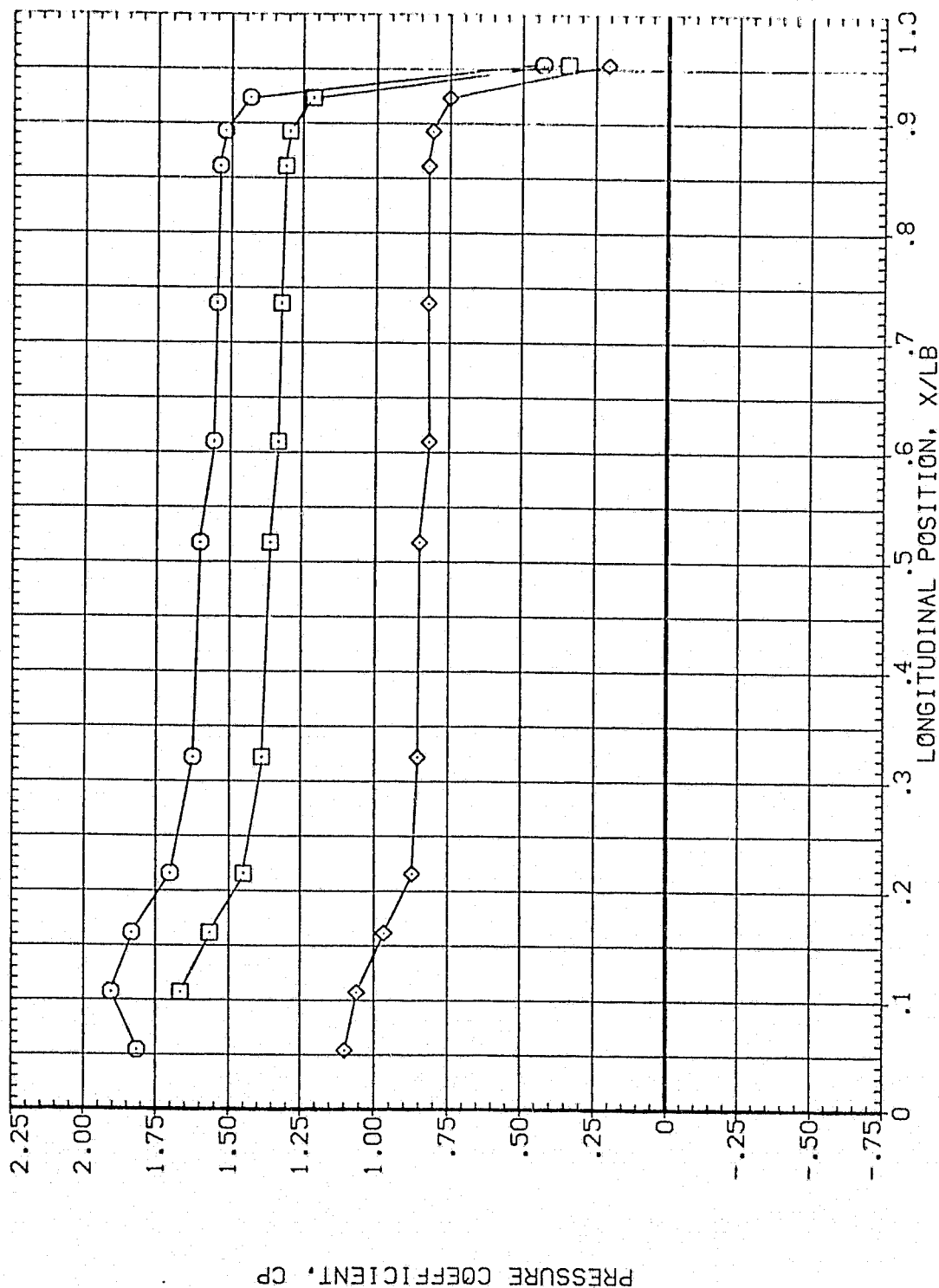


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL    THETA    ALPHA    MACH  
 ○    180.000    69.130    4.960  
 □    202.500  
 ◇    225.000

PARAMETRIC VALUES  
 BETA    .000    .000  
 MOUNT    2.000    PHI  
 60.000    .000



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	69.130	4.960	MOUNT	.000	.000
□	270.000				2.000	
◇	292.500					.000

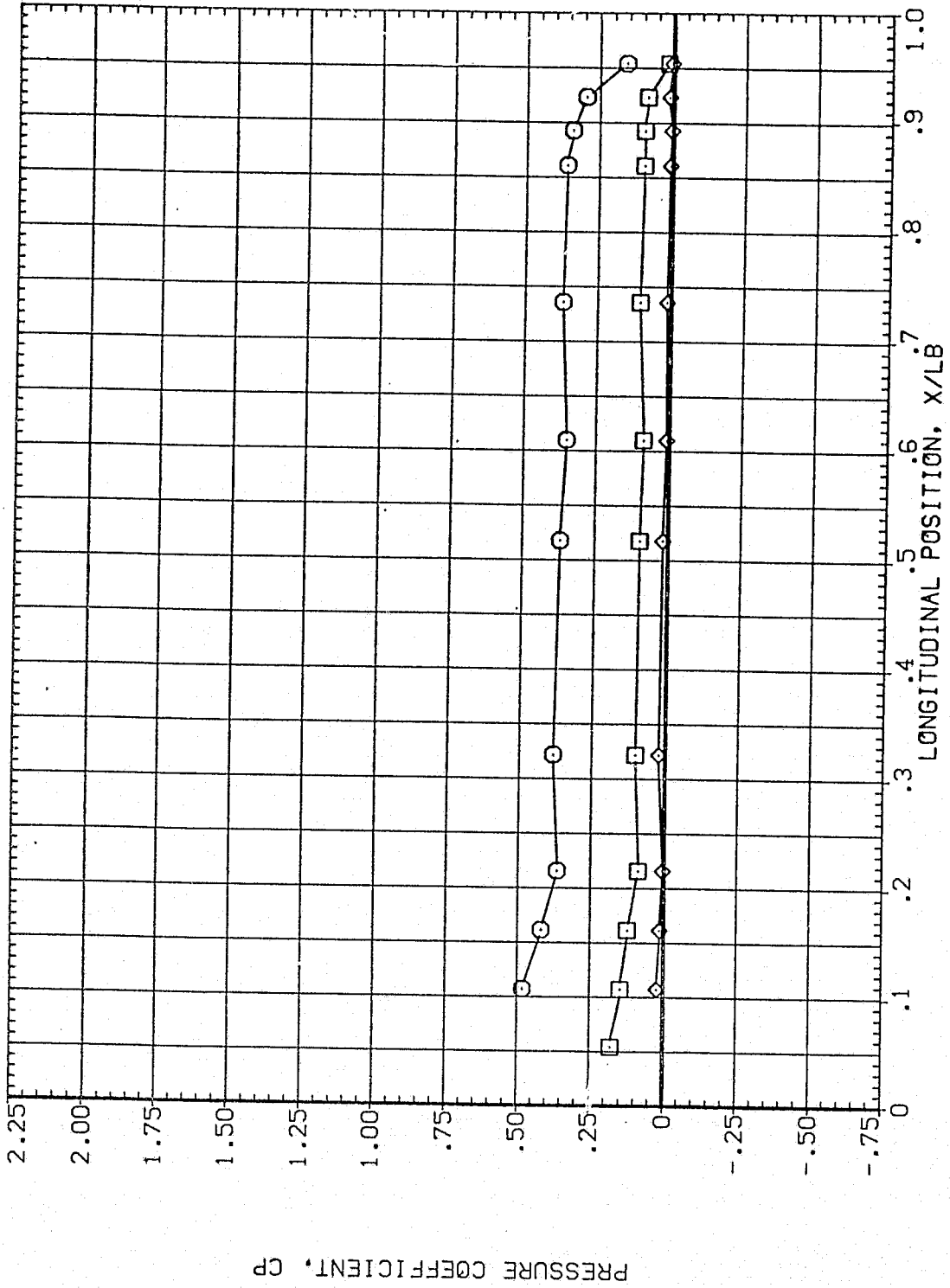


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	315.000	59.130	4.960	MOUNT	.000
◇	326.000				2.000
◇	345.000				PHI
					50.000
					.000

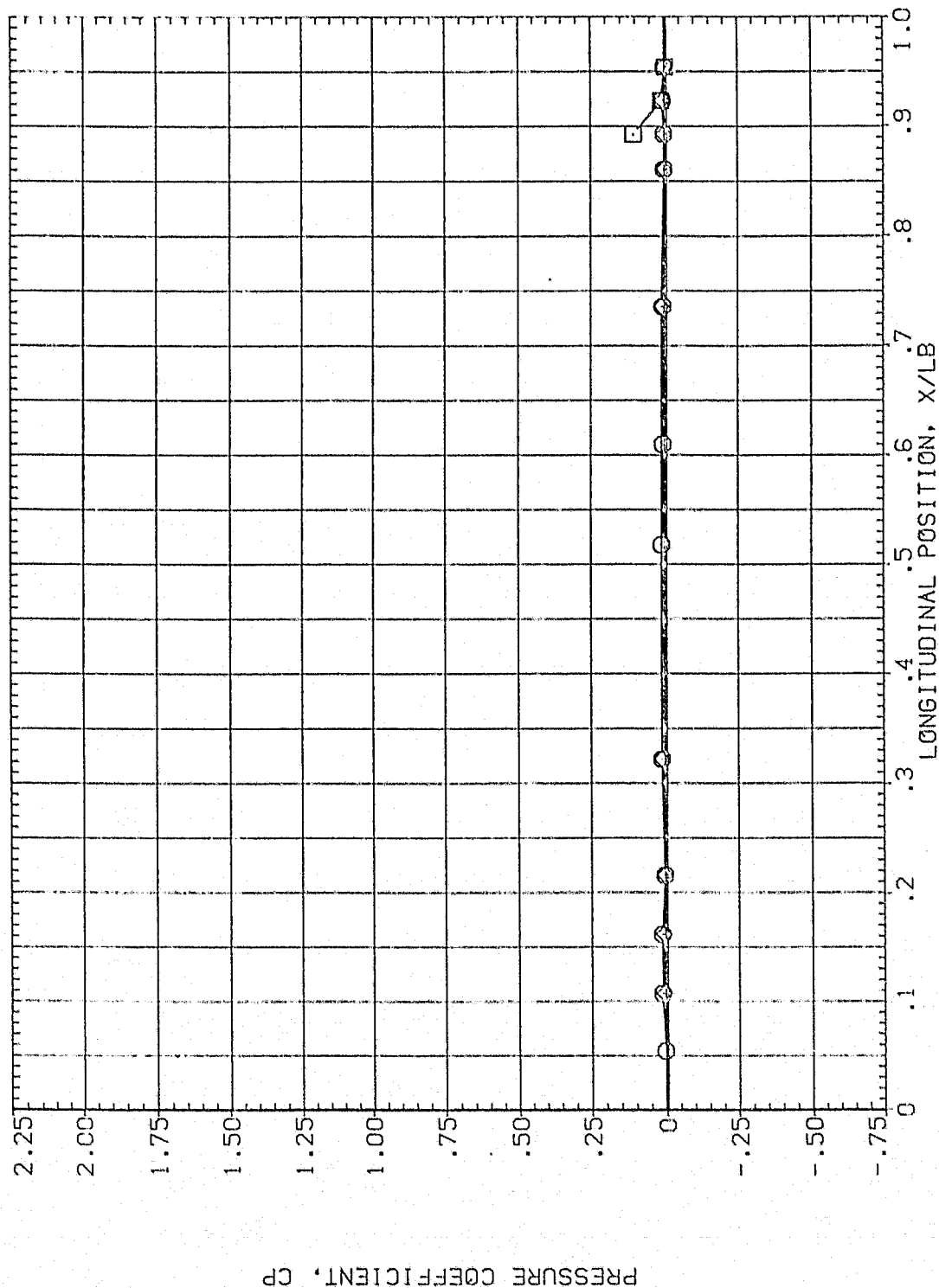


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

PARAMETRIC VALUES  
 BETA .000  
 HCOUNT 2.000  
 OFFSET PHI .000  
 80.000  
 .000

SYMBOL  
 THETA .000  
 ALPHA 89.980  
 MACH 4.960  
 14.000  
 24.000

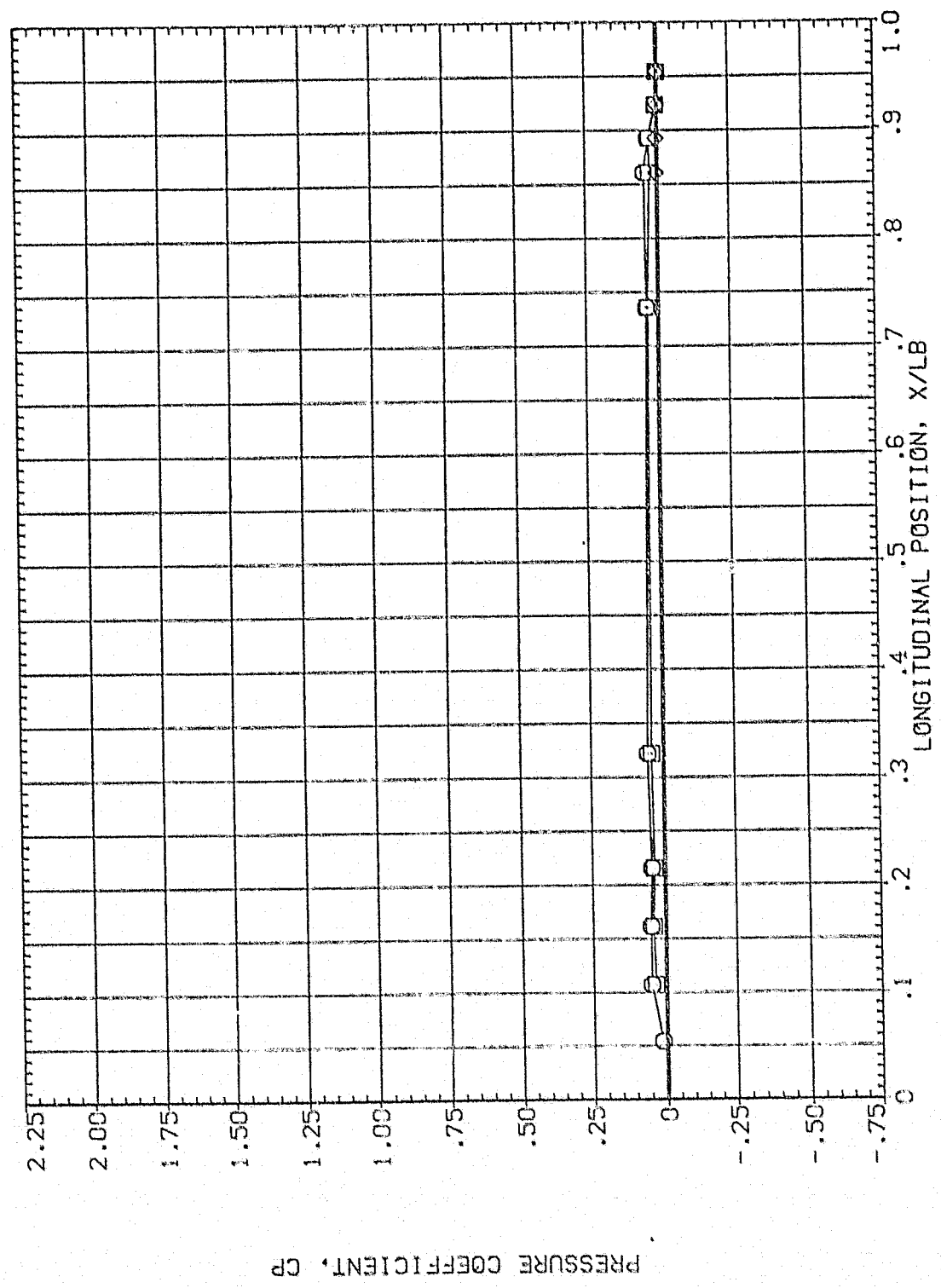


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 □  
 ○  
 ◇

THETA  
 45.000  
 67.500  
 90.000

ALPHA  
 69.980

MACH  
 4.960

BETA  
 MCUNT

PARAMETRIC VALUES  
 .000  
 .000  
 2.000  
 .000

80.000  
 .000

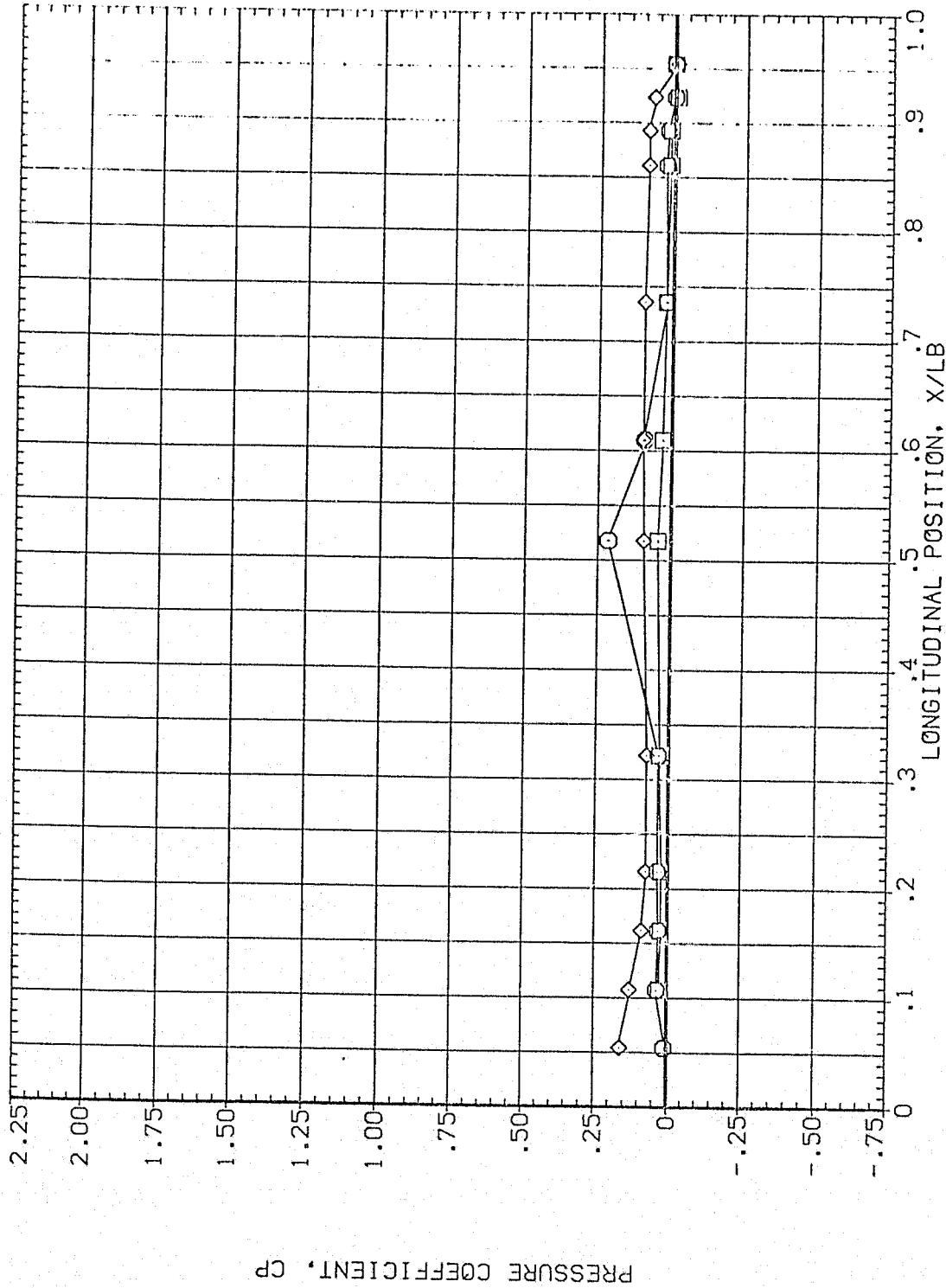


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2. (P1A068)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	69.980	4.960	.000	.000	.000
□	135.000			2.000		
◇	157.500					

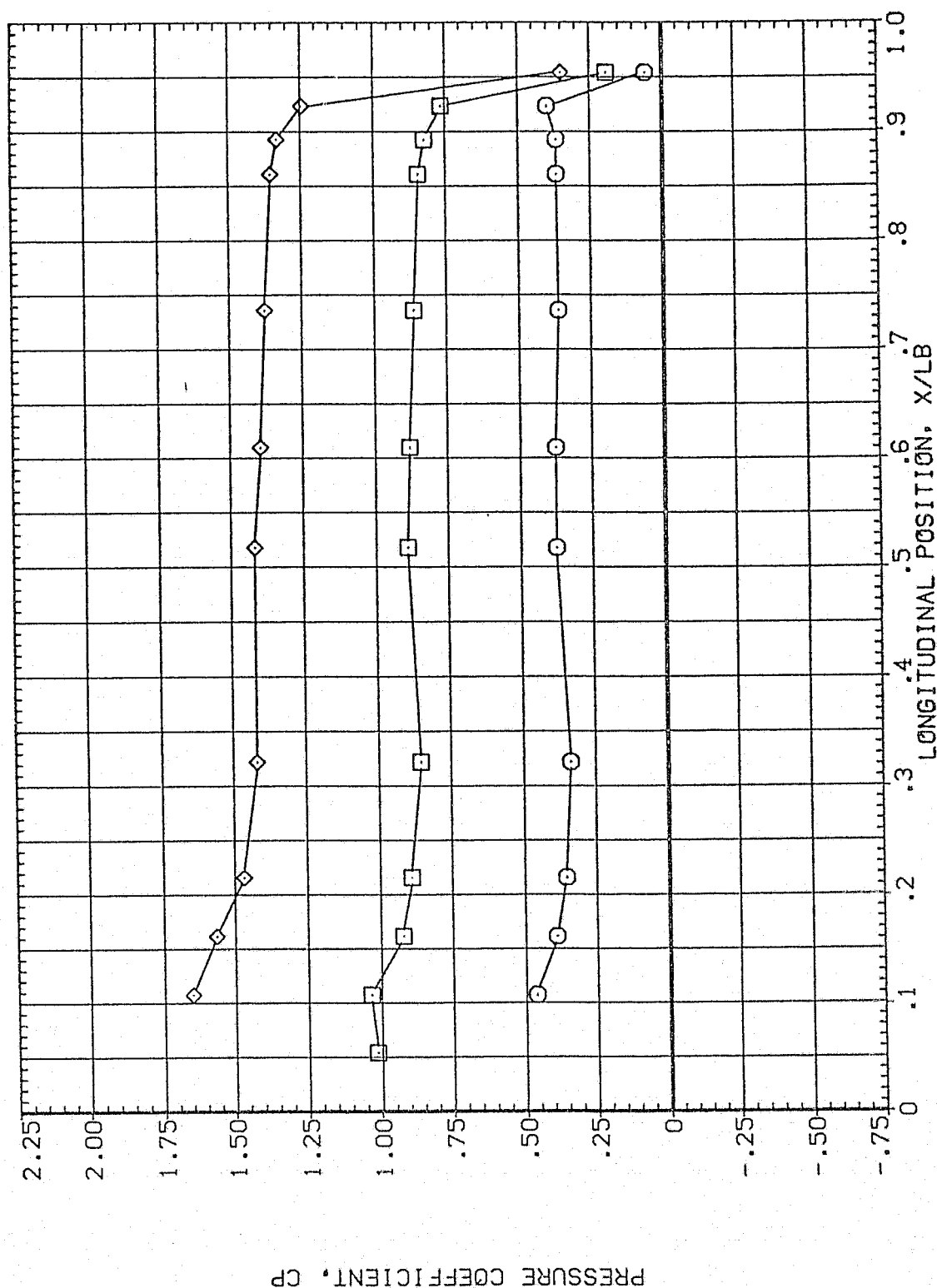


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	69.980	4.960	HUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				.000

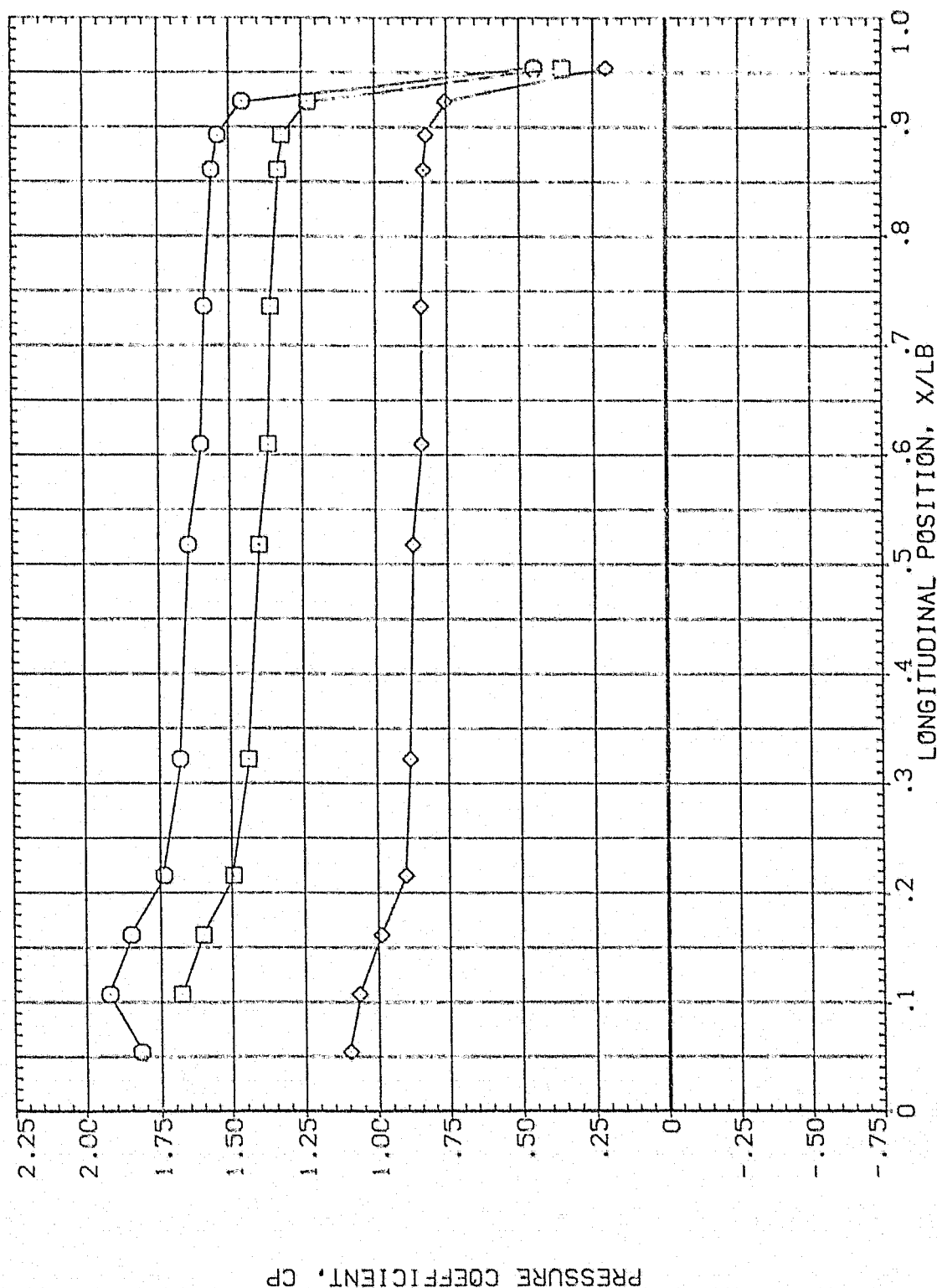


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	247.500	69.980	4.960	HOUNT	.000	80.000
□	270.000				2.000	.000
◇	292.500					

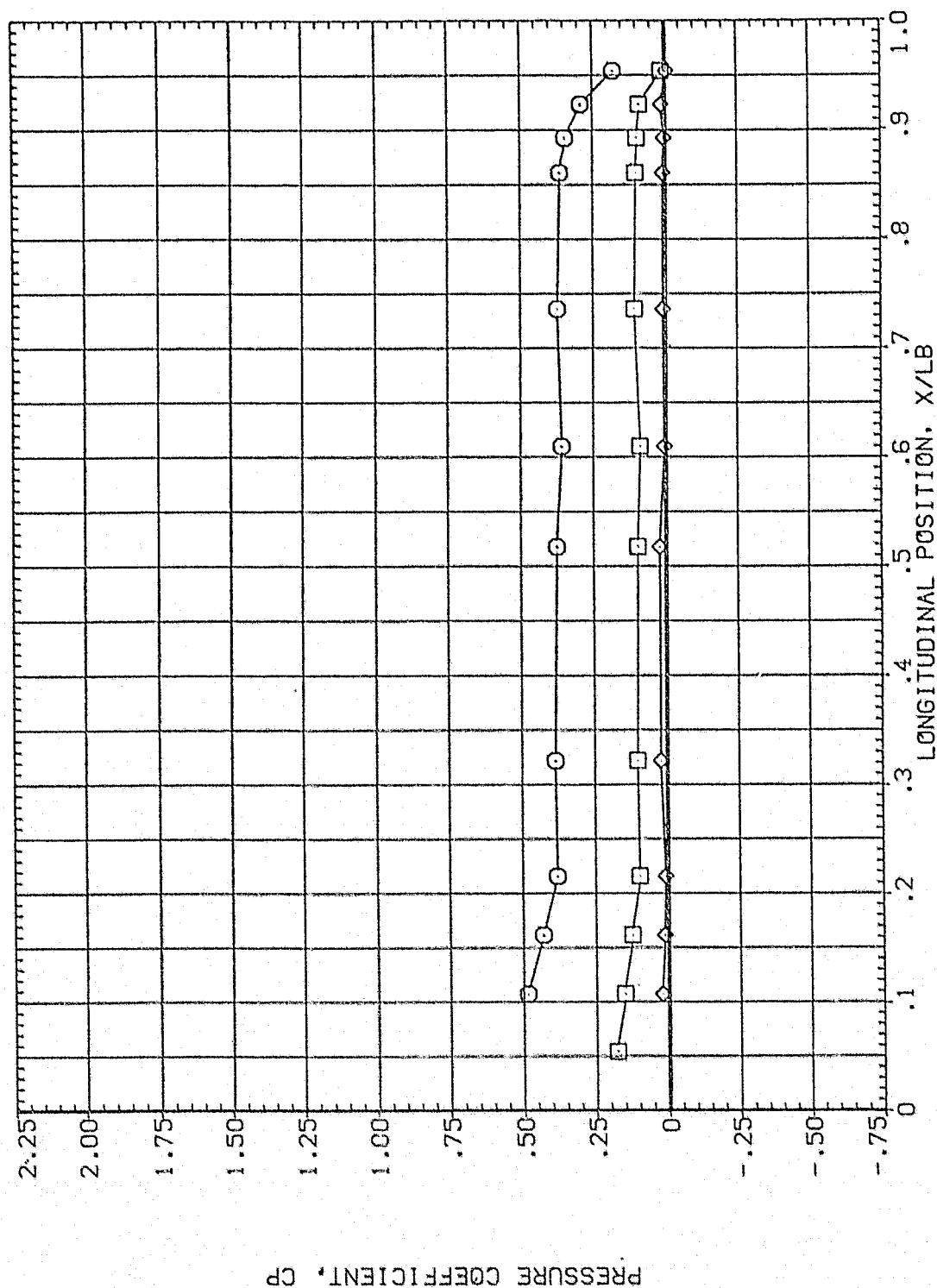


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	69.980	4.960	MOUNT	.000 OFFSET 80.000
□	326.000				2.000 PHI .000
◇	346.000				

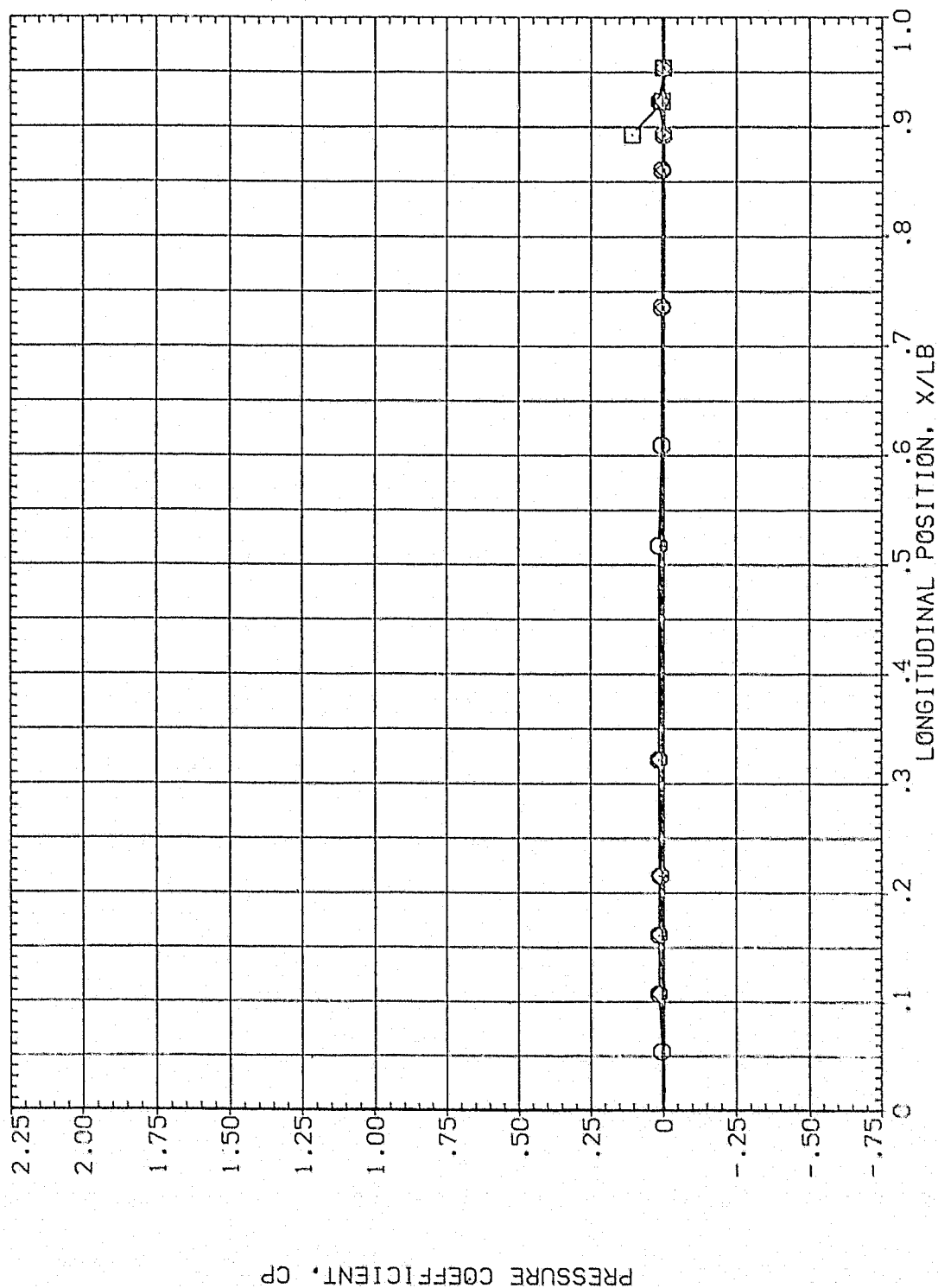


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.000	71.880	4.950	MGUNT	.000
□	14.000				2.000
◇	24.000				80.000
					PHI
					.000

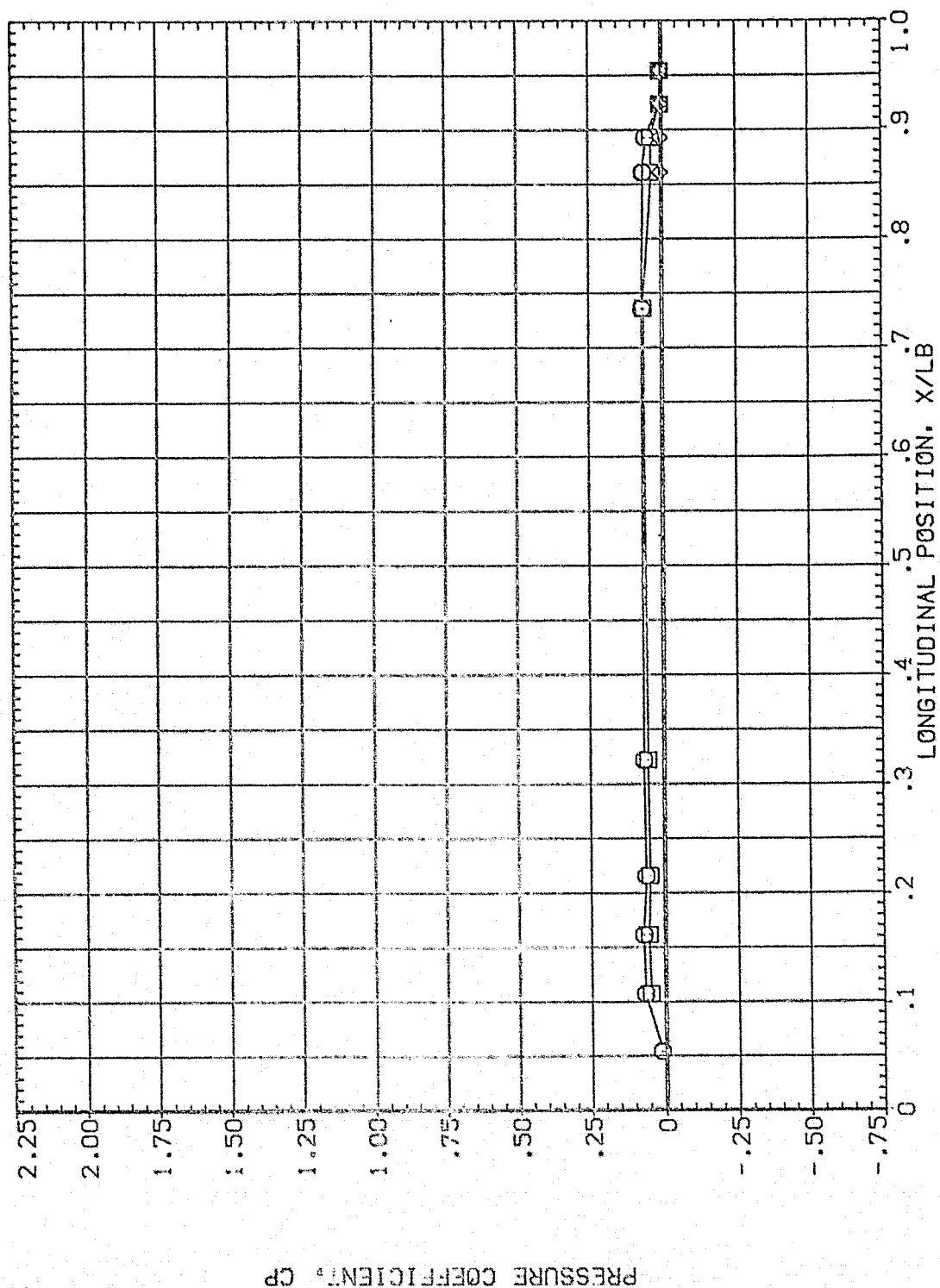


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL  
 ○  
 □  
 ◇

THETA  
 45.000  
 67.500  
 90.000

ALPHA  
 71.880

MACH  
 4.960

PARAMETRIC VALUES  
 .000 .000  
 BETA OFFSET  
 .000 .000  
 PHI

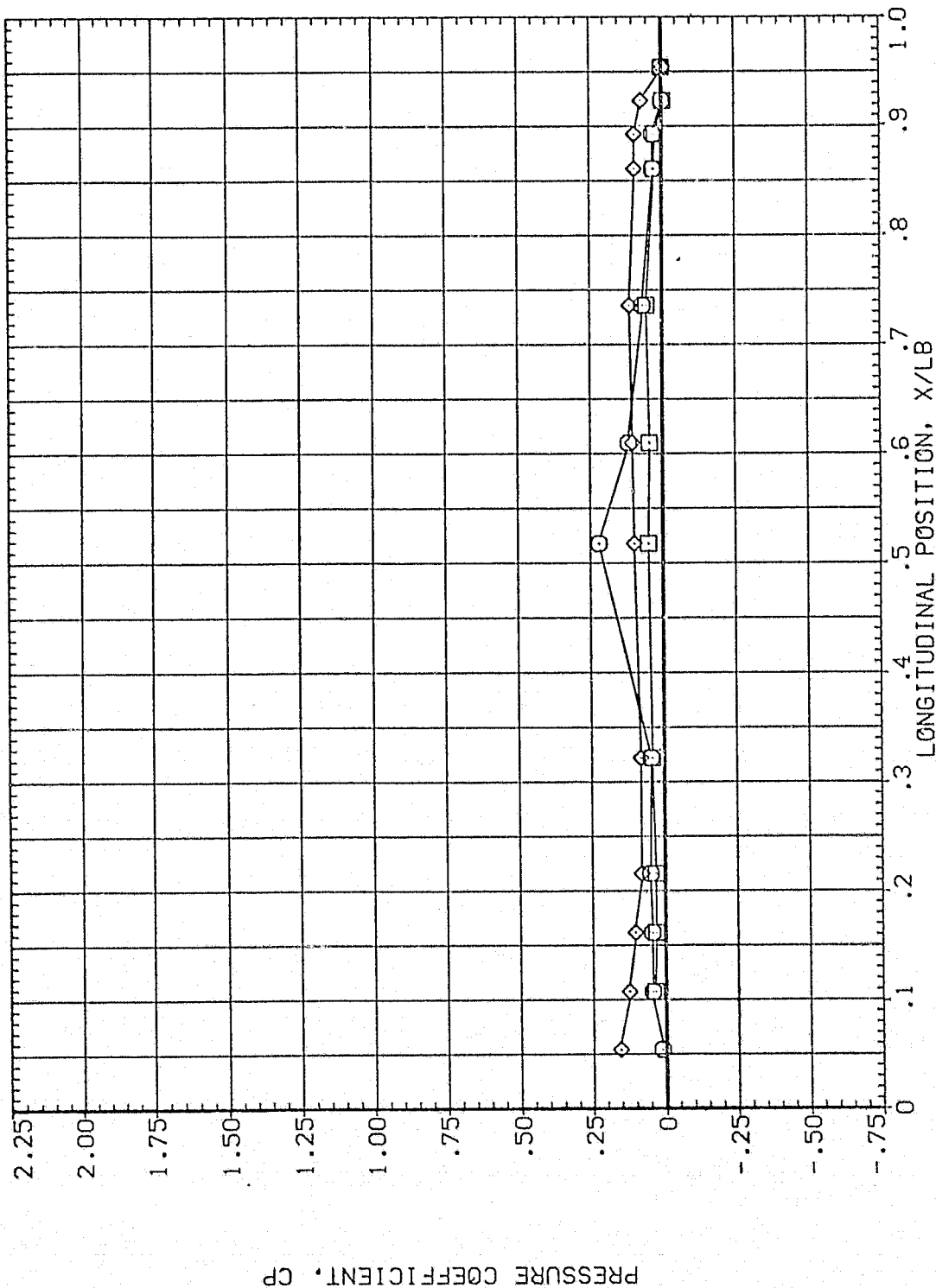


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 536 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBO	BETA	ALPHA	HACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
112.500	71.660	4.930		2.000	.000	80.000
135.000						
157.500						

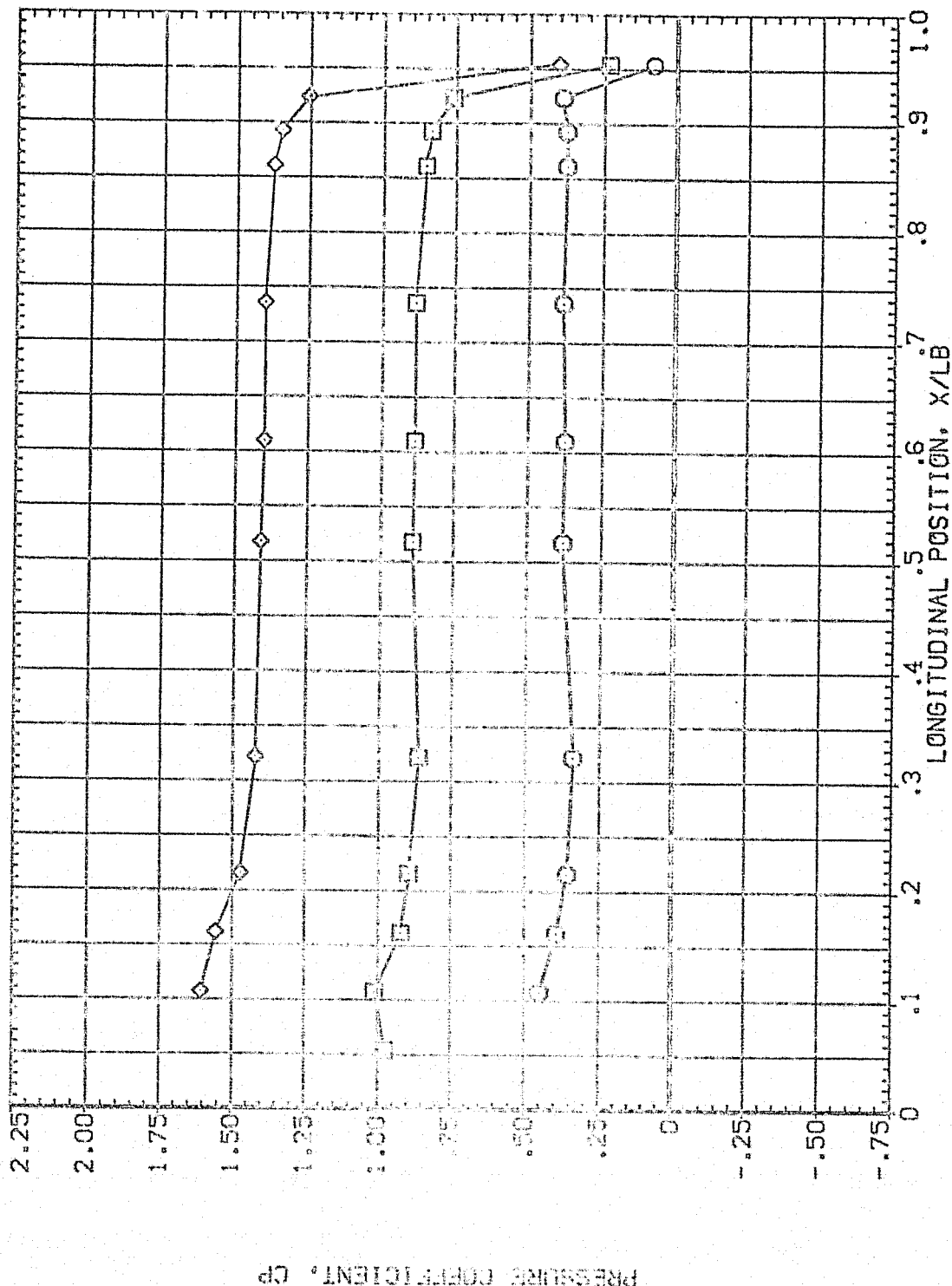


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	71.880	4.960	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				80.000
					.000

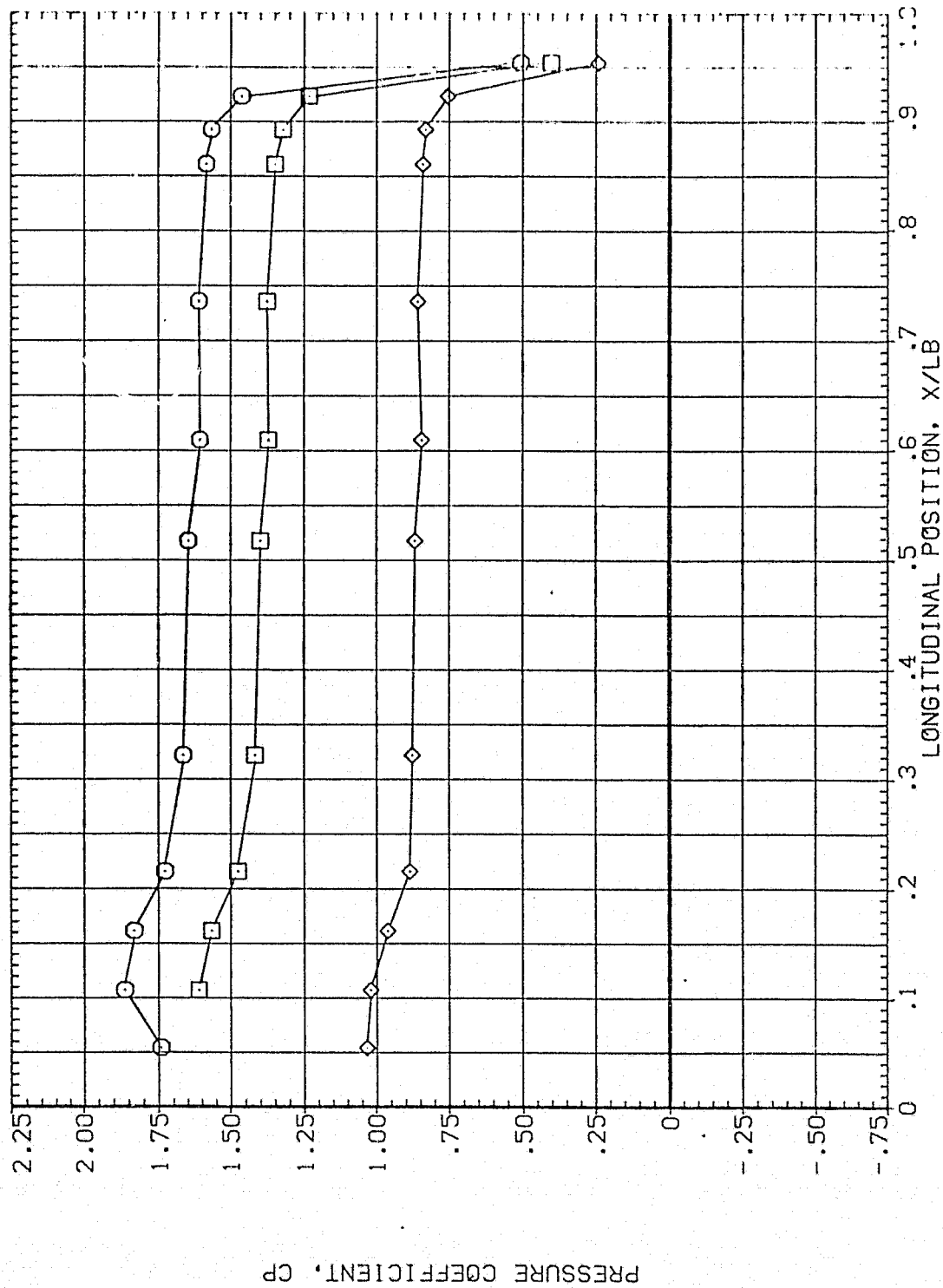


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBOL    THETA    ALPHA    MACH  
 ○    247.500    71.880    4.960  
 □    270.000  
 ◇    292.500

PARAMETRIC VALUES  
 BETA    .000    OFFSET    80.000  
 MOUNT    2.000    PHI    .000

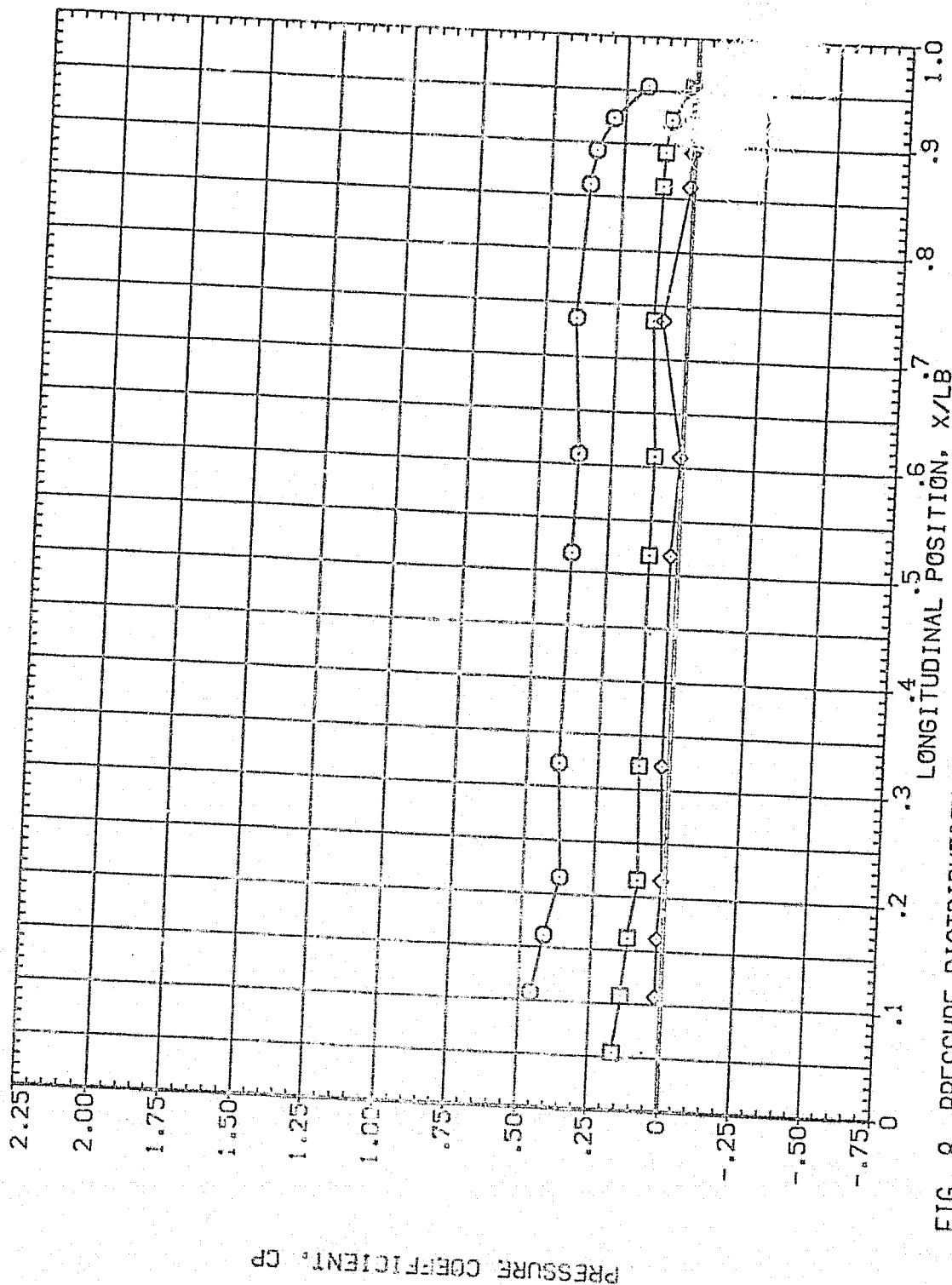


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	71.880	4.960	HOUNT	.000 OFFSET
□	326.000			2.000	PHI
◇	346.000				80.000

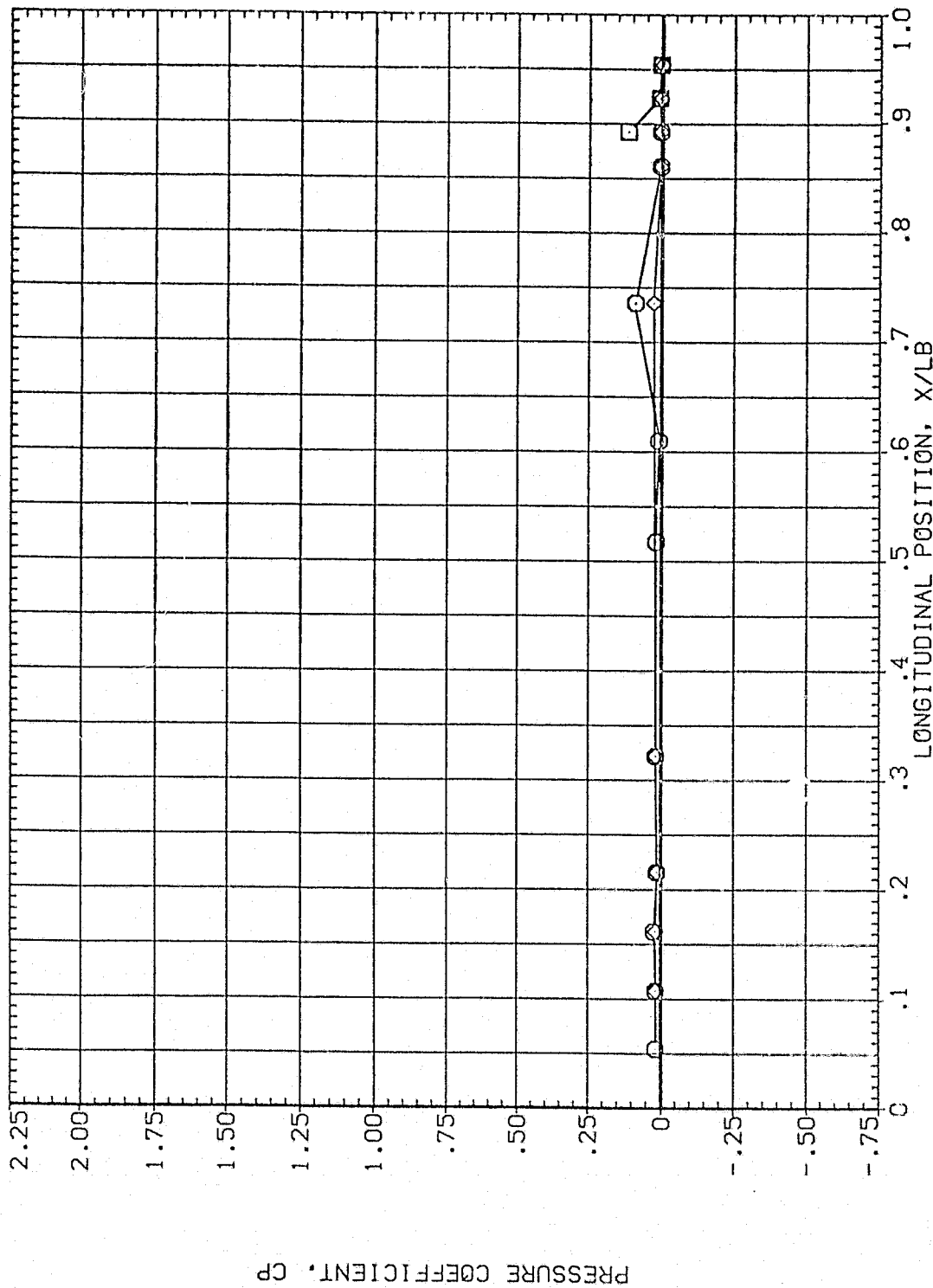


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.000	74.860	4.960	.000	.000	.000
□	14.000			2.000		
◇	24.000					

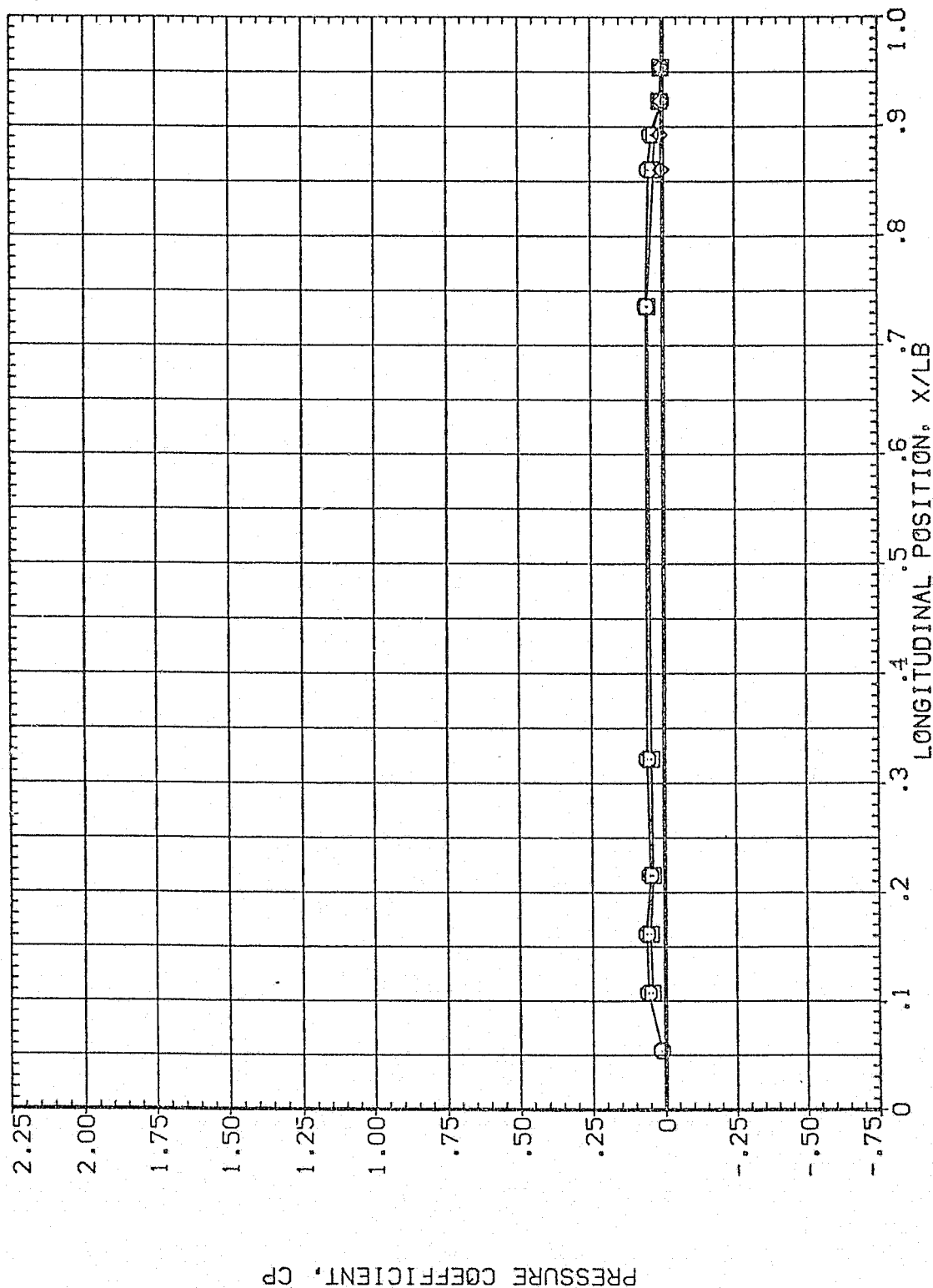


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	74.860	4.960	MOUNT	.000
□	67.500			PHI	2.000
◇	90.000				80.000
					.000

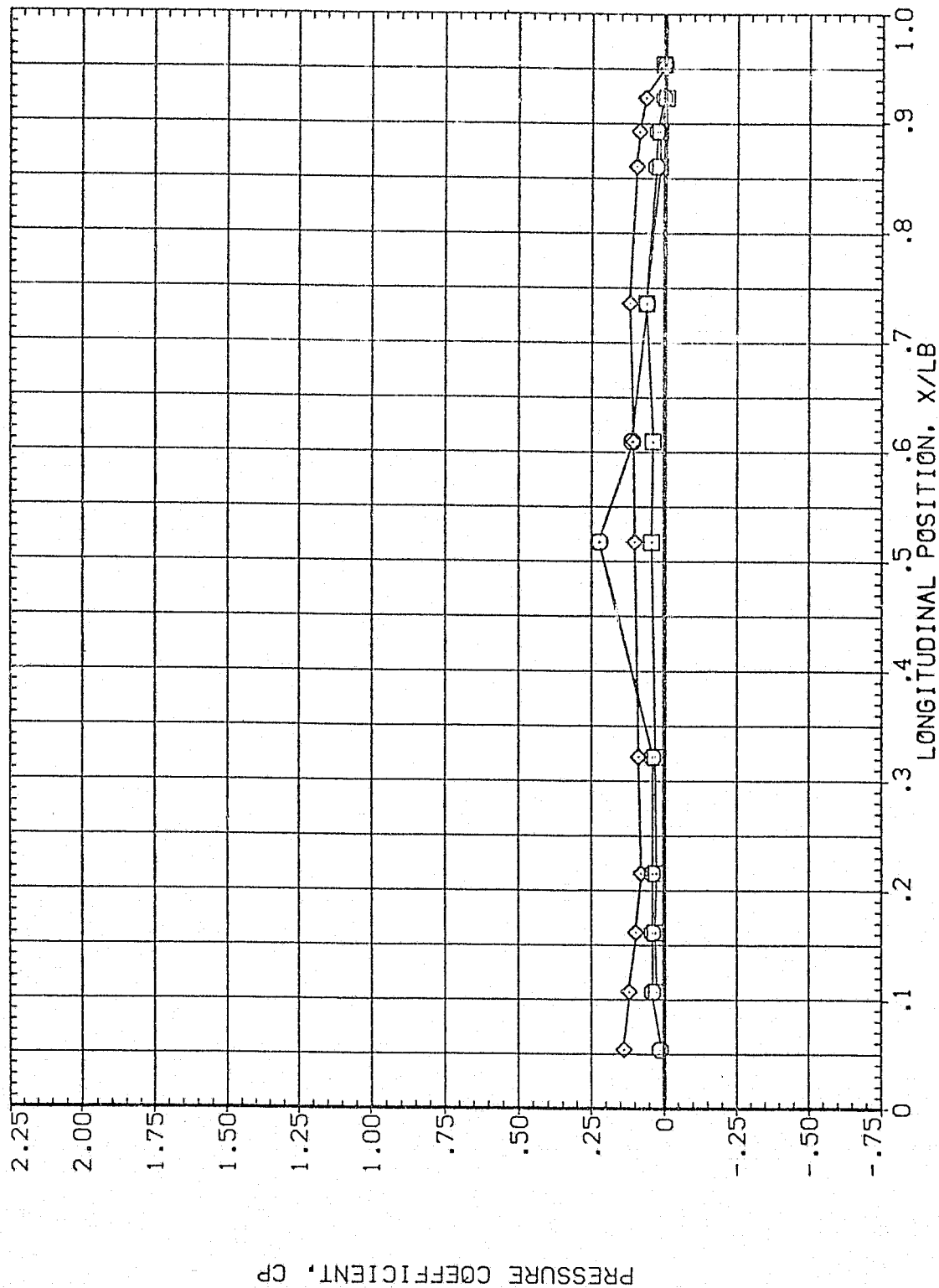


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	74.860	4.950	HOUNT	.000	.000
□	135.000				2.000	
◇	157.500					

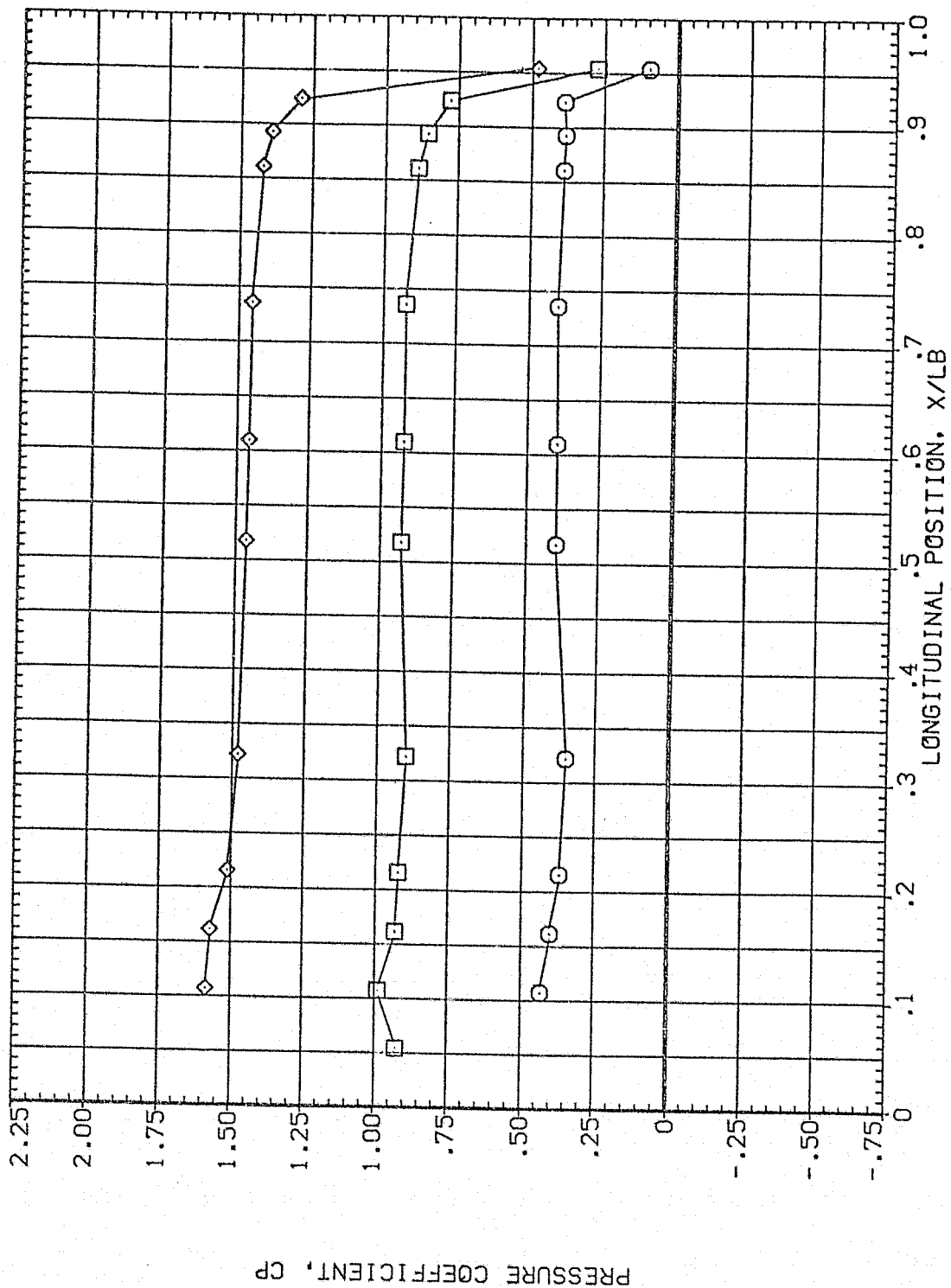


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	74.860	4.960	MOUNT	.000
□	202.500				2.000
◇	225.000				80.000
					PHI
					.000

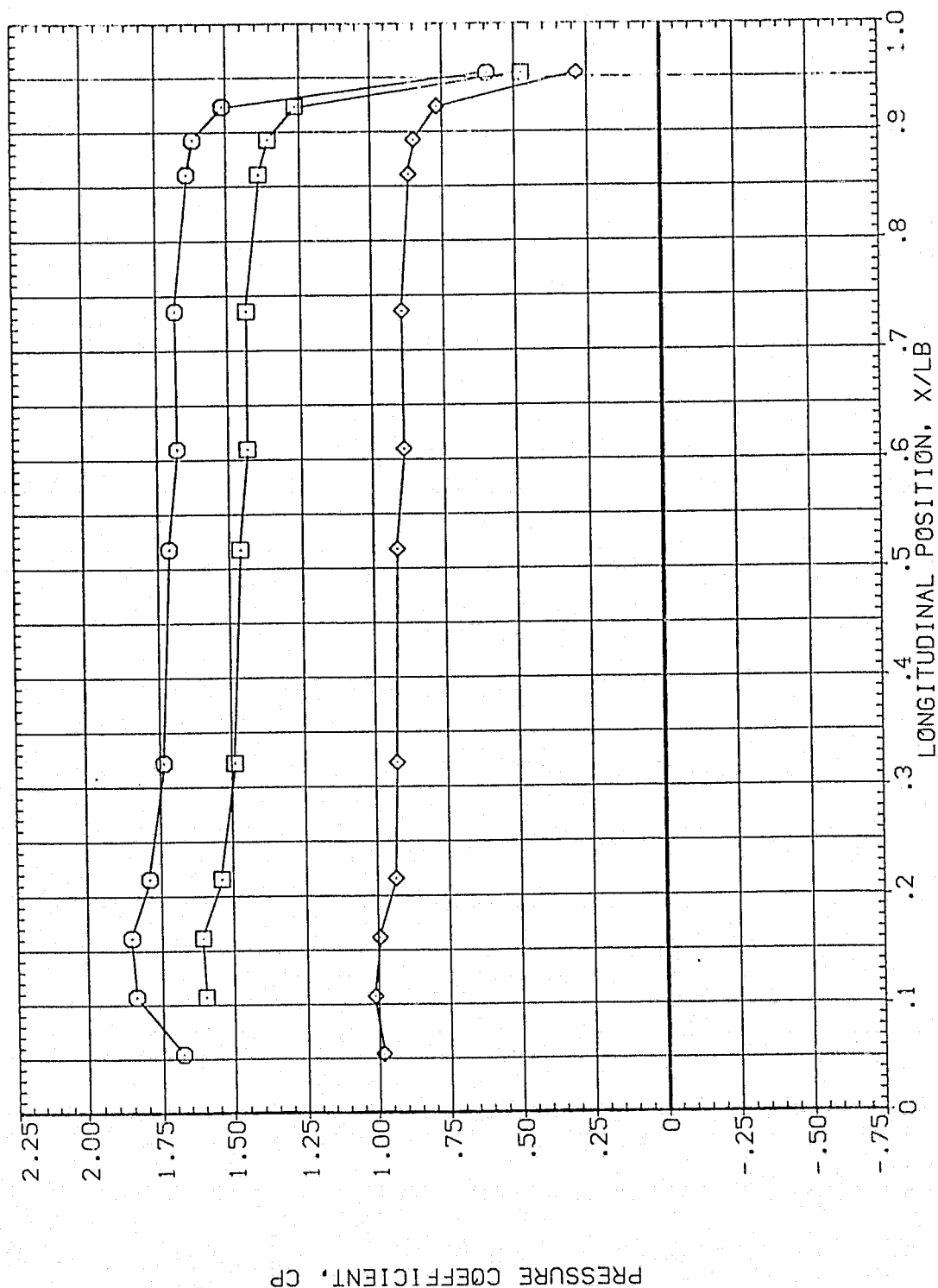


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL

THETA  
247.500  
250.000  
252.500

ALPHA  
74.860

H/CH  
4.960

PARAMETRIC VALUES  
BETA  
MOUNT  
2.000  
OFFSET  
PHI  
80.000  
.000

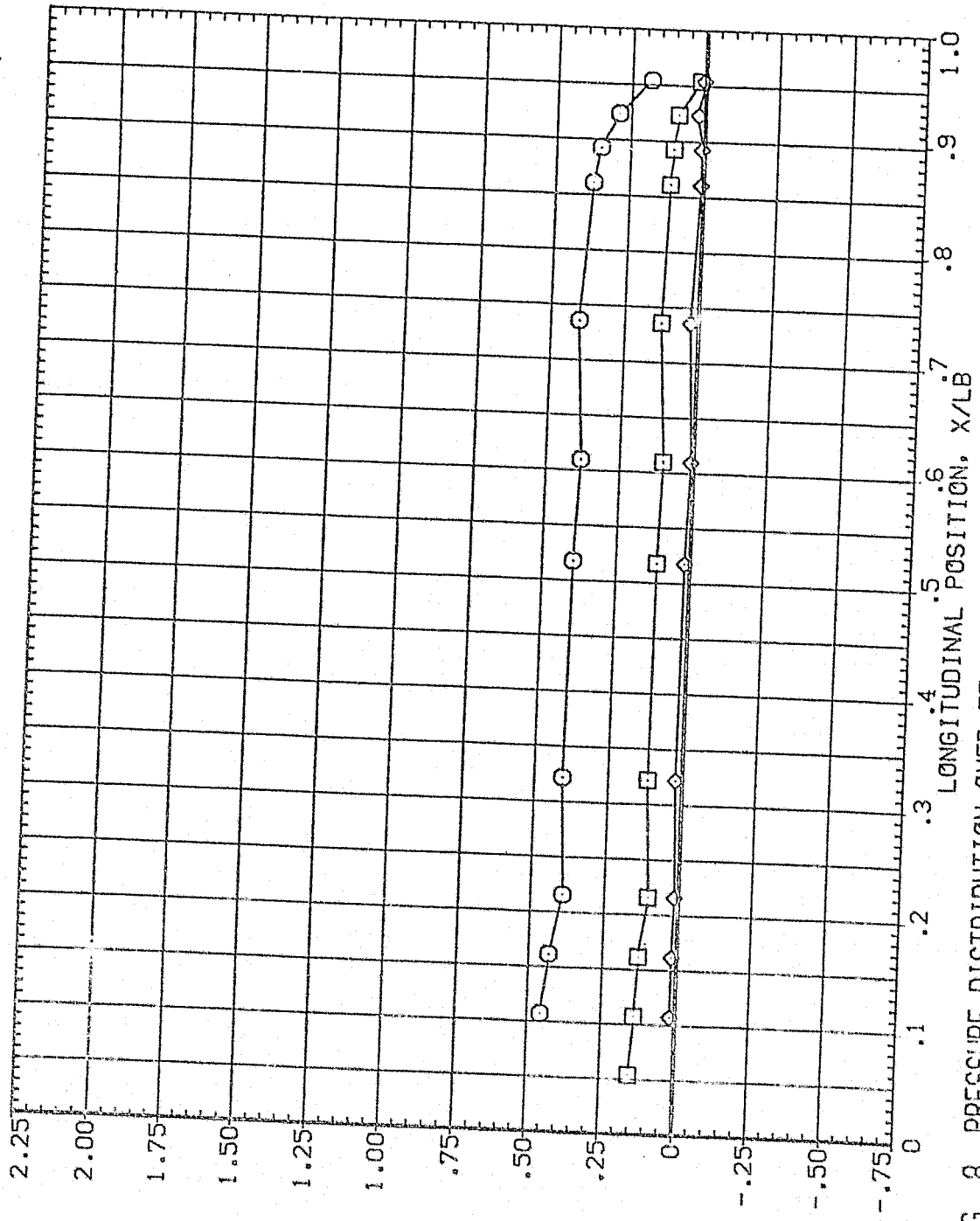


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	74.860	4.960	MCJNT	.000 OFFSET
□	326.000				2.000 PHI
◇	346.000				80.000

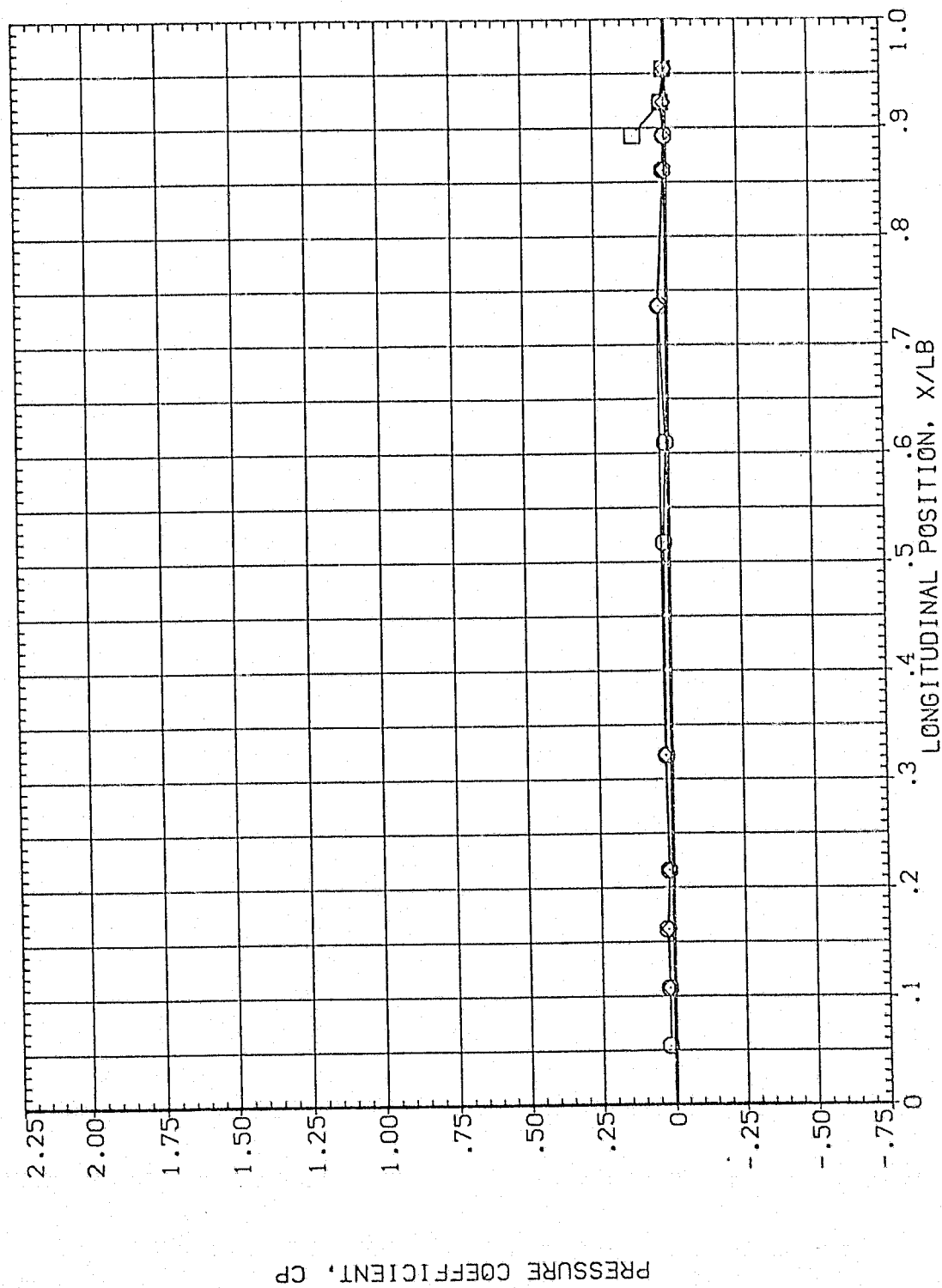


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

CP1A0710

MODEL 500 (TA-25) MCR3200 EXTERNAL TANK, T2

PARAMETRIC VALUES

BETA .000 80.000  
COUNT 2.000 PHI .000

DELTA .000  
ALPHA 77.880  
MECH 4.950  
14.000  
24.000

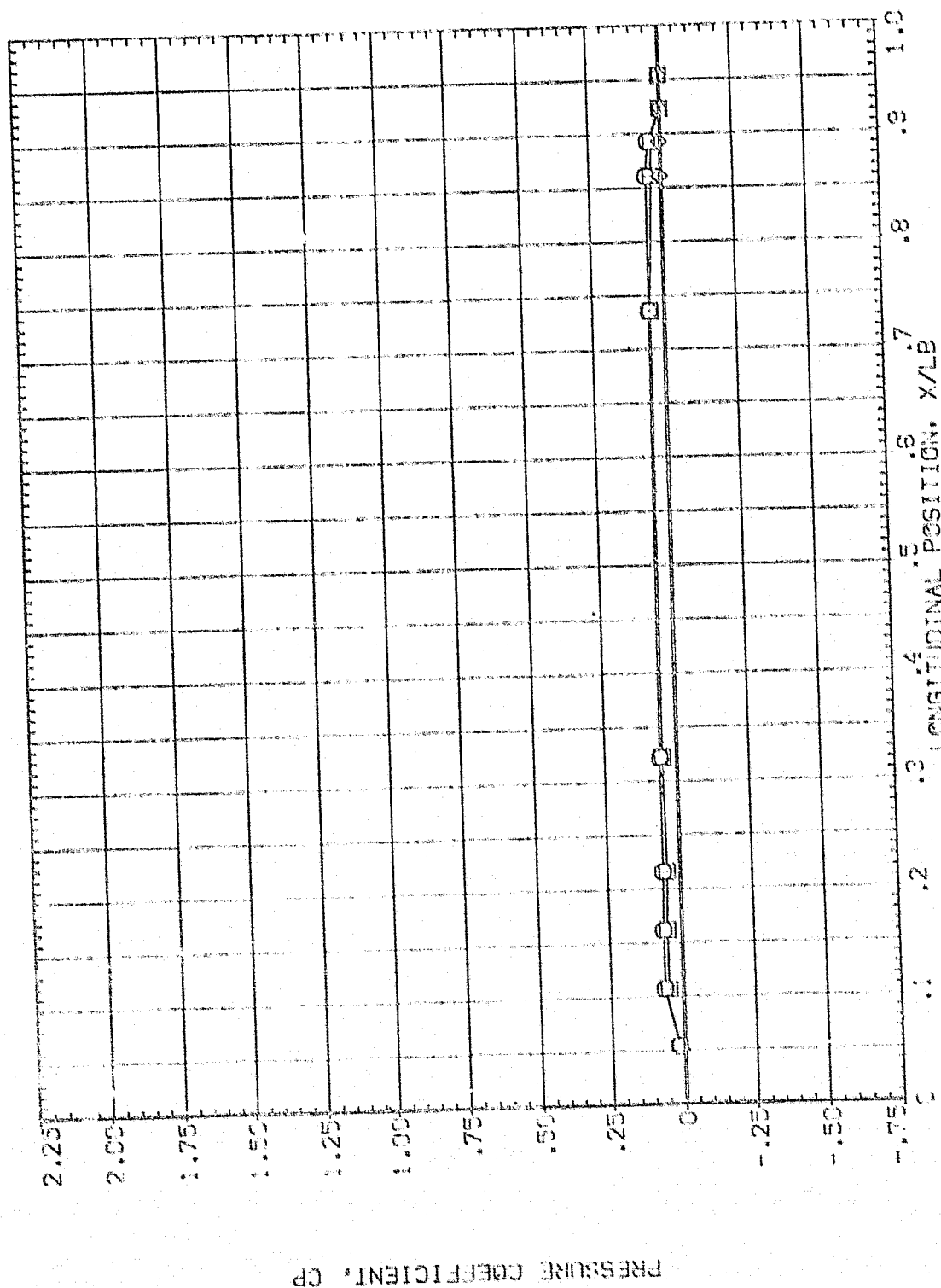


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTRUSIONS

SYMBOL  
 ○ □ ◇

THETA  
 45.000  
 67.500  
 90.000

ALPHA  
 77.880

MACH  
 4.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 2.000  
 .000  
 .000

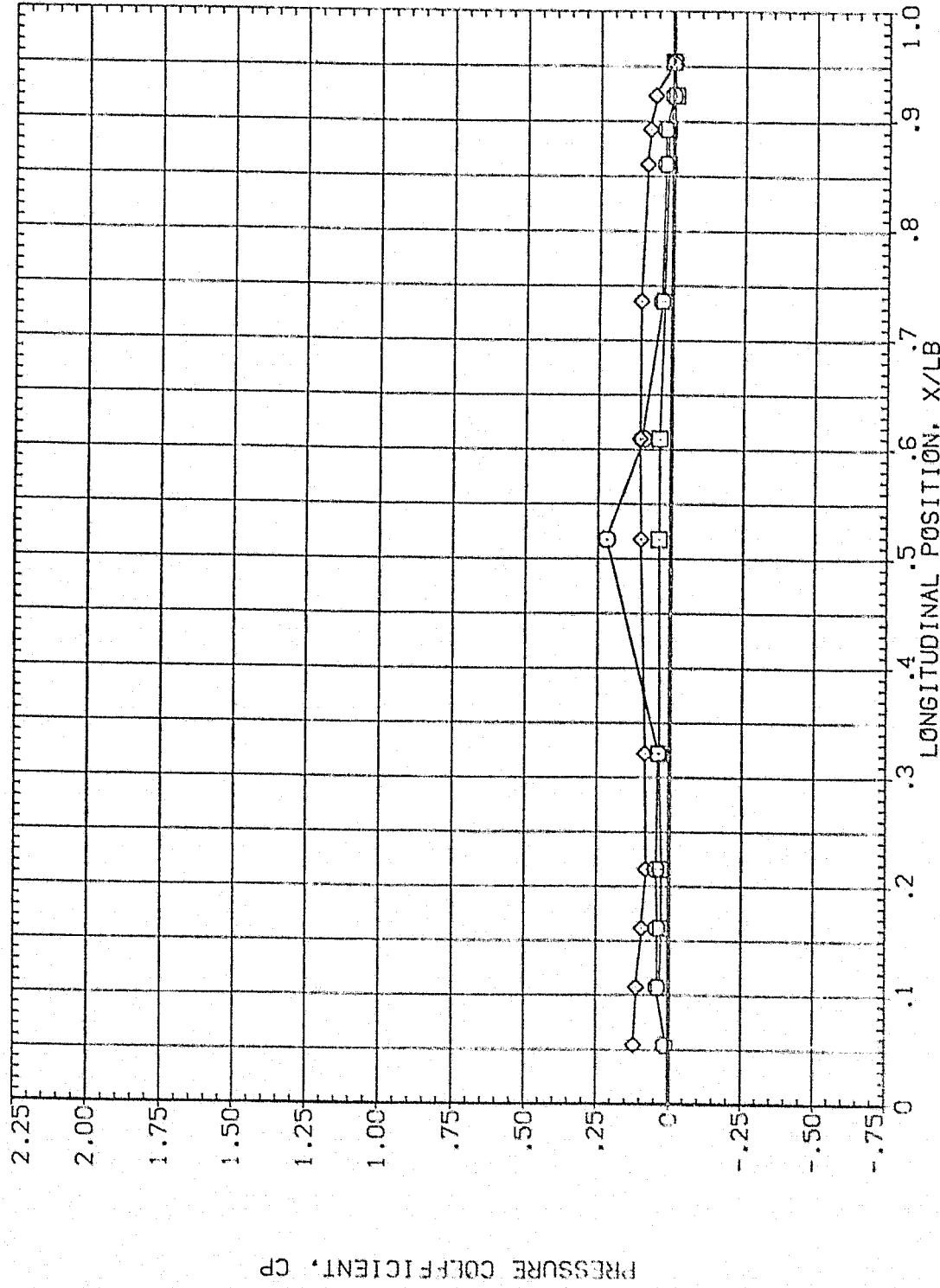


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	112.500	77.880	4.960	HOUNT	OFFSET
□	135.000				PHI
◇	157.500				

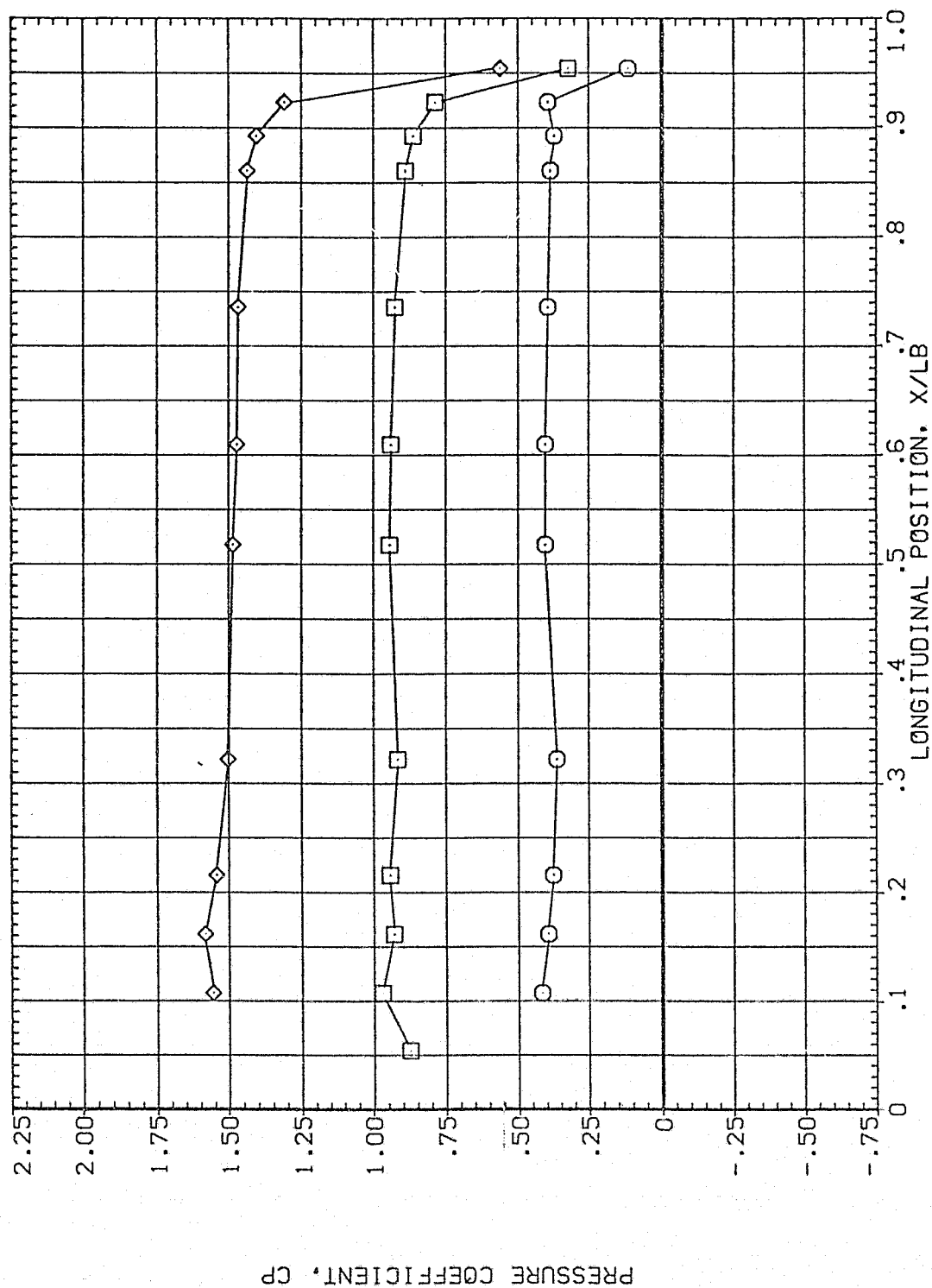


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	77.880	4.960	HOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				80.000

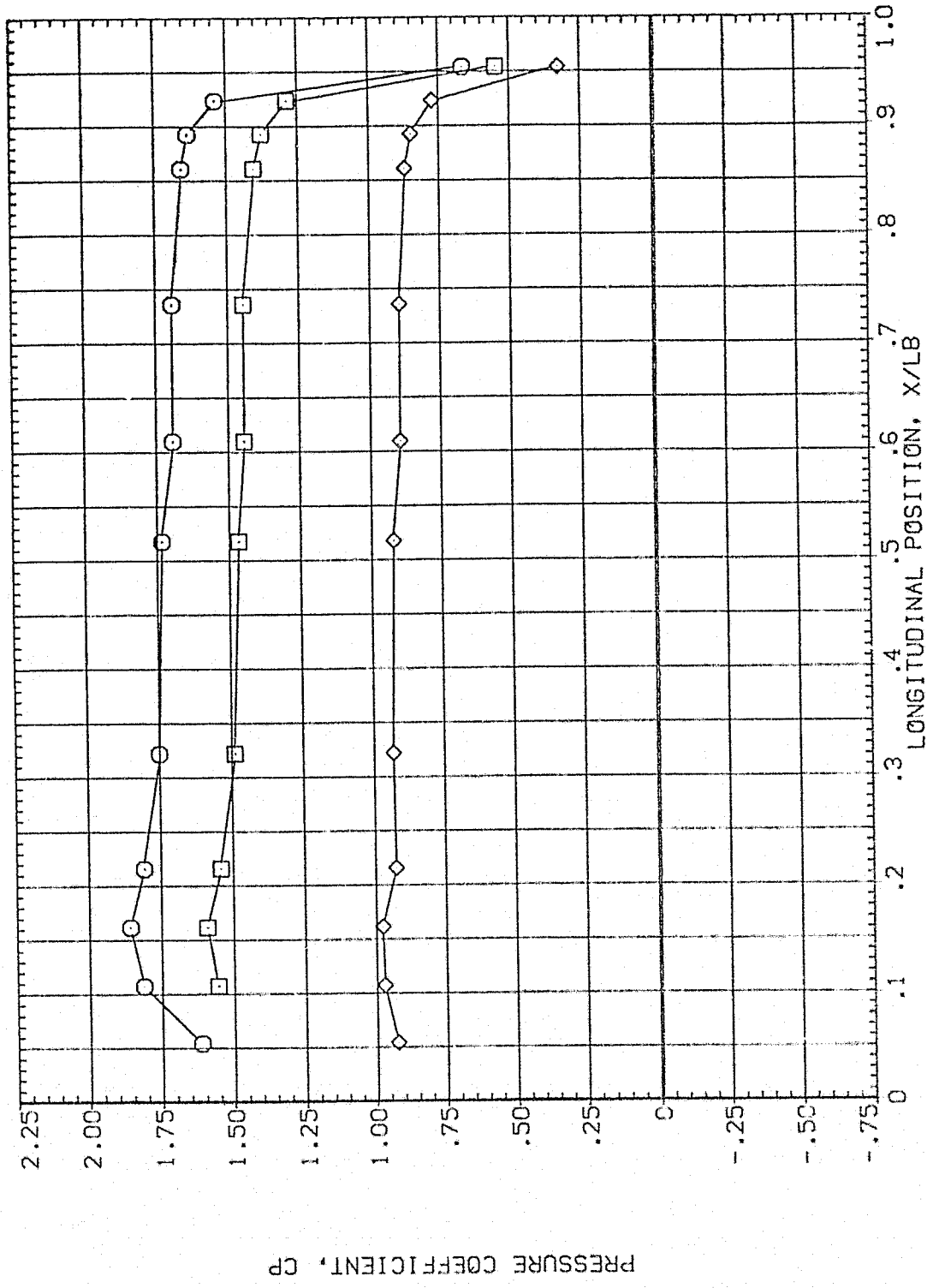


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 ○  
 □  
 ◇

THEIA  
 247.500  
 270.000  
 292.500

ALPHA  
 77.600

BACH  
 4.930

PARAMETRIC VALUES  
 .000  
 2.000

BETA  
 MOUNT

PHI

80.000  
 .000

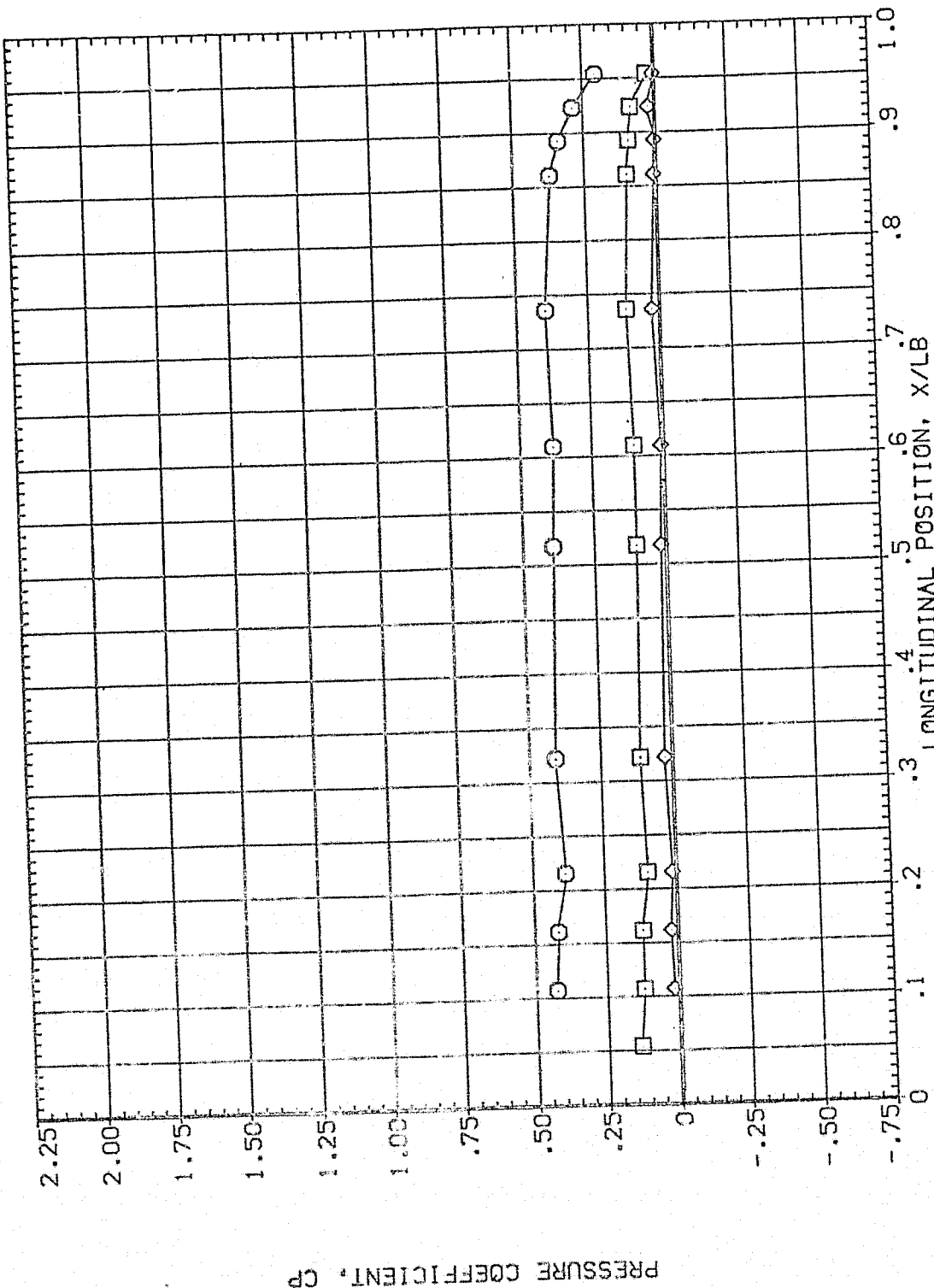


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	315.000	77.880	4.960	MOUNT	.000
□	326.000				2.000
◇	346.000				80.000
					PHI
					.000

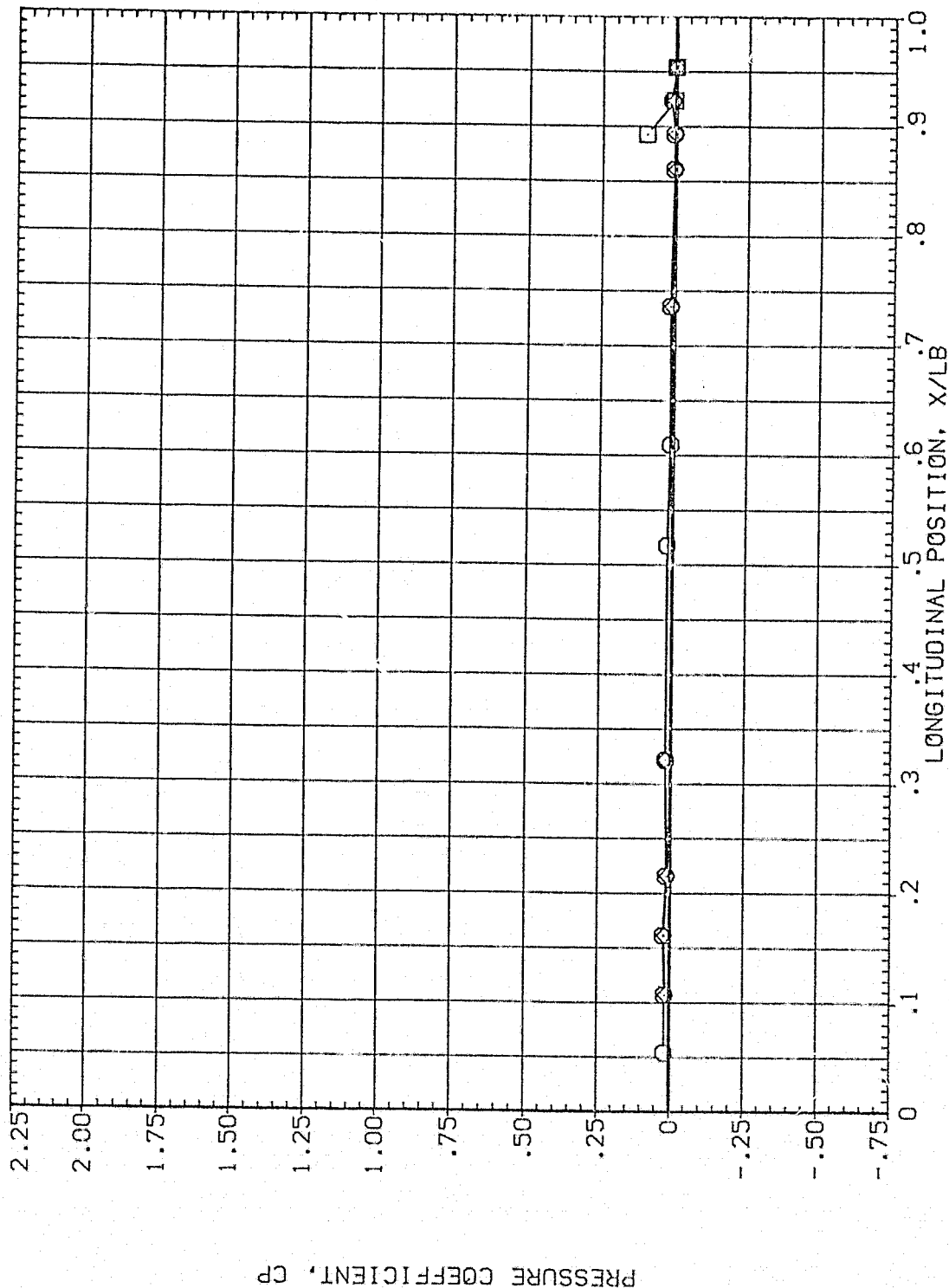


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

PARAMETRIC VALUES  
 BETA .000  
 HOUNT 2.000  
 OFFSET .000  
 PHI .000

SYMBOL THETA ALPHA MACH  
 ○ .000 79.930 4.960  
 □ 14.000  
 ◇ 24.000

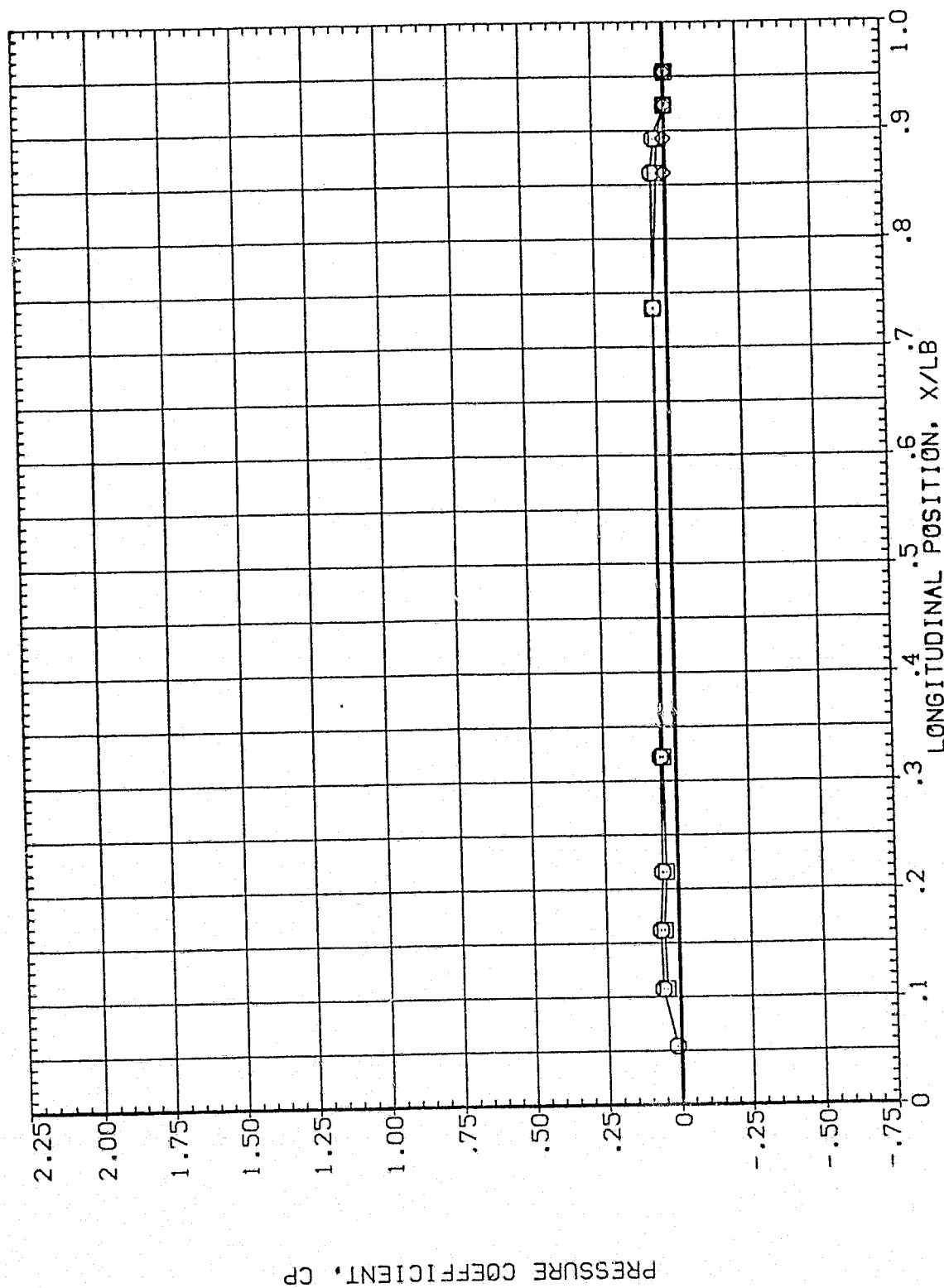


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL THETA ALPHA MACH  
 O 45.000 79.930 4.960  
 □ 67.500  
 ◇ 90.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

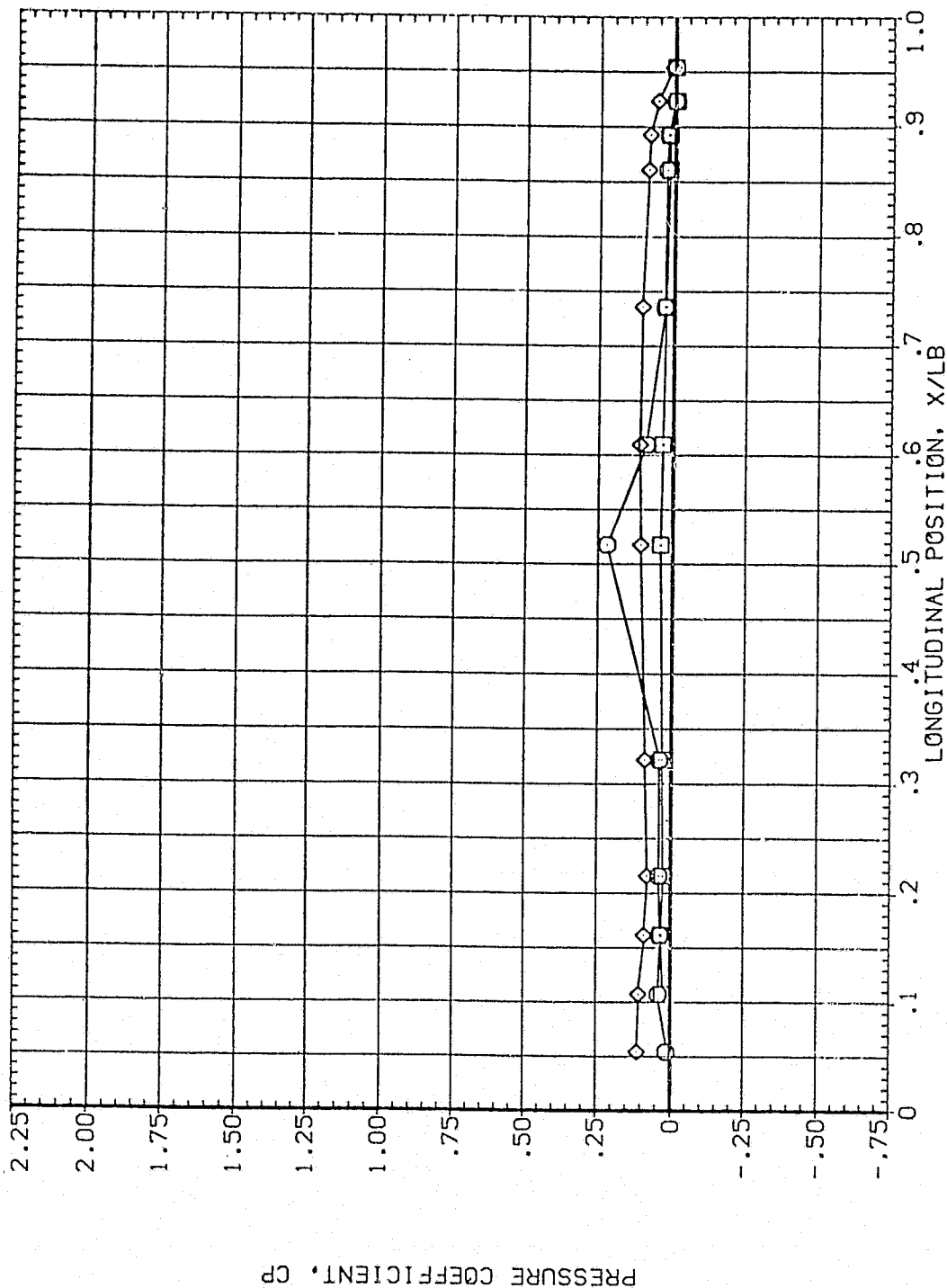


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	THEYA	ALPHA	INCH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.800	79.930	4.960	MGUNT	.000	.000
□	135.000				2.000	
◇	157.500					

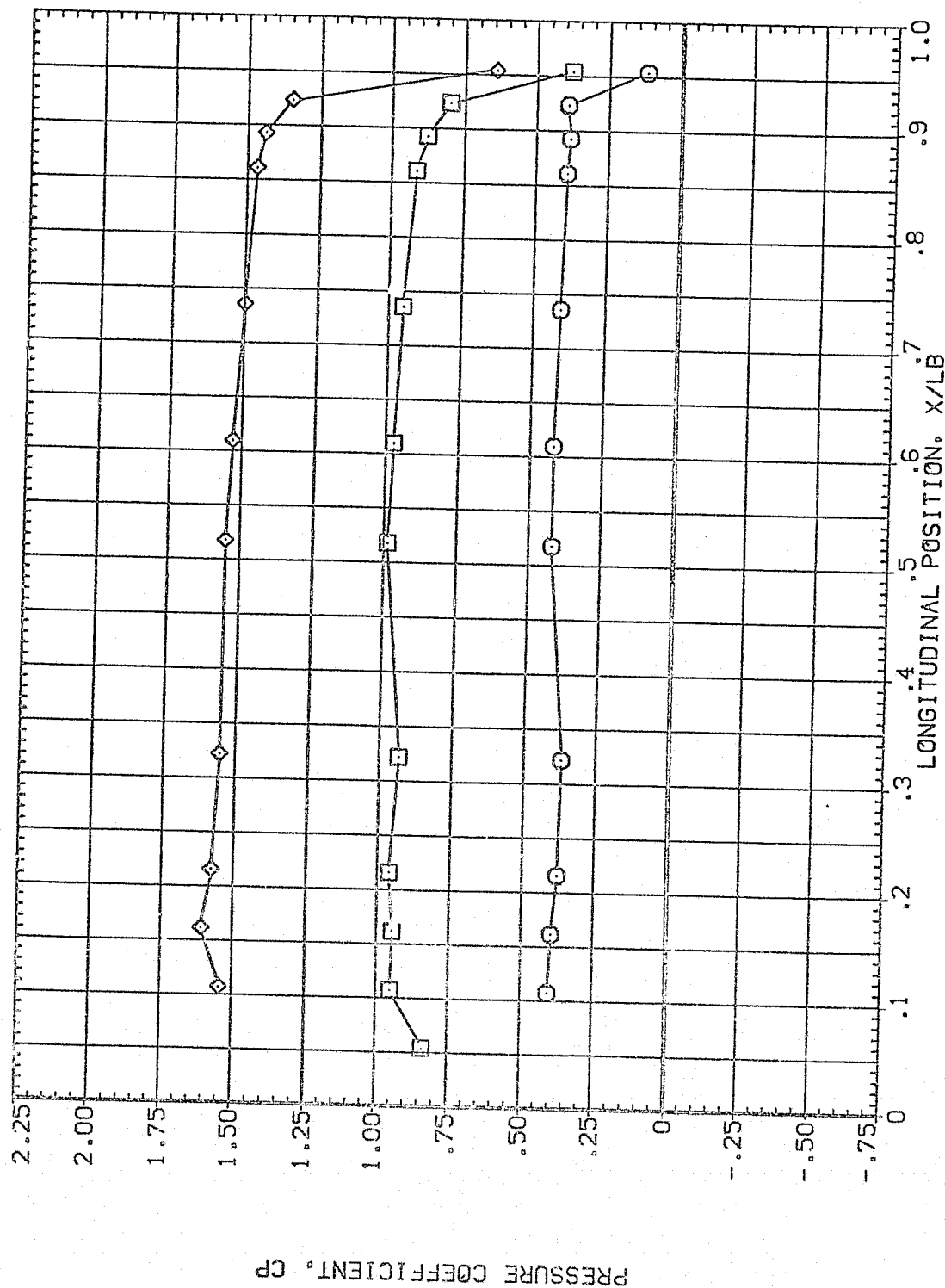


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	79.930	4.960	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				90.000 .000

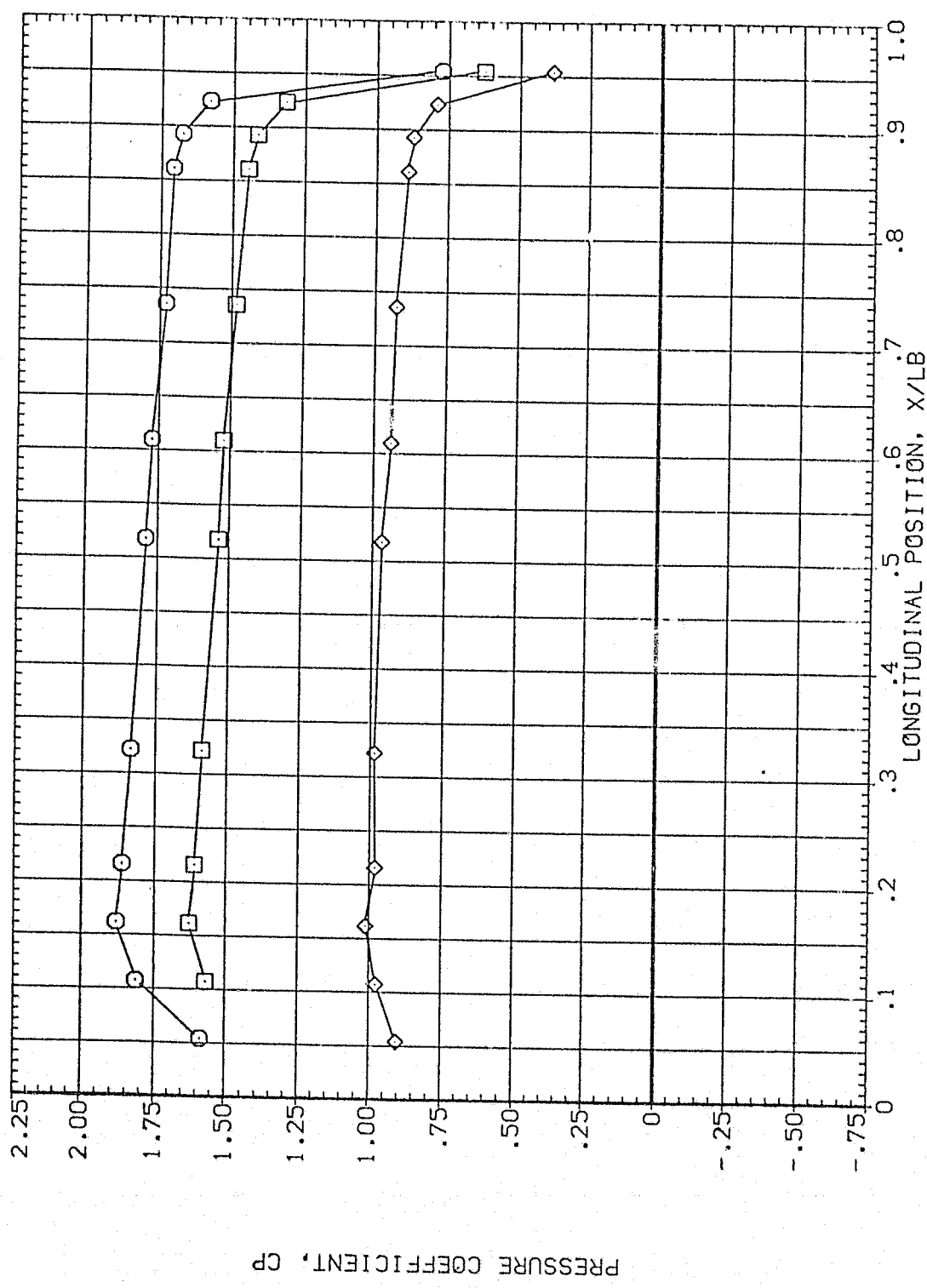


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL THETA ALPHA CACH  
 O 247.500 75.930 4.560  
 □ 270.000  
 ◇ 292.500

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI  
 50.000  
 .000

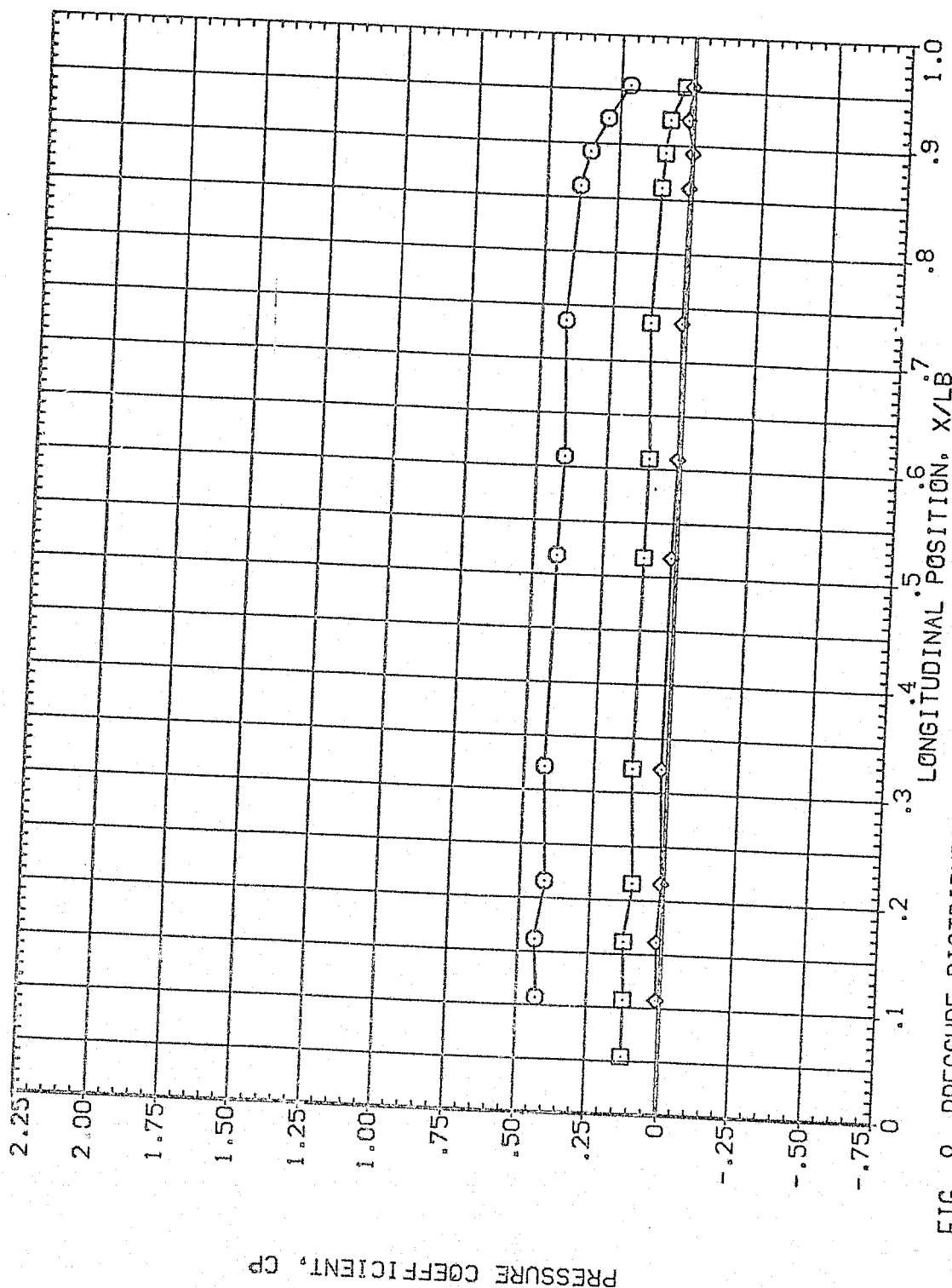


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

(P1A072)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
□  
◇

THETA 315.000  
326.000  
346.000

ALPHA 79.930

MACH 4.960

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI  
90.000  
.000

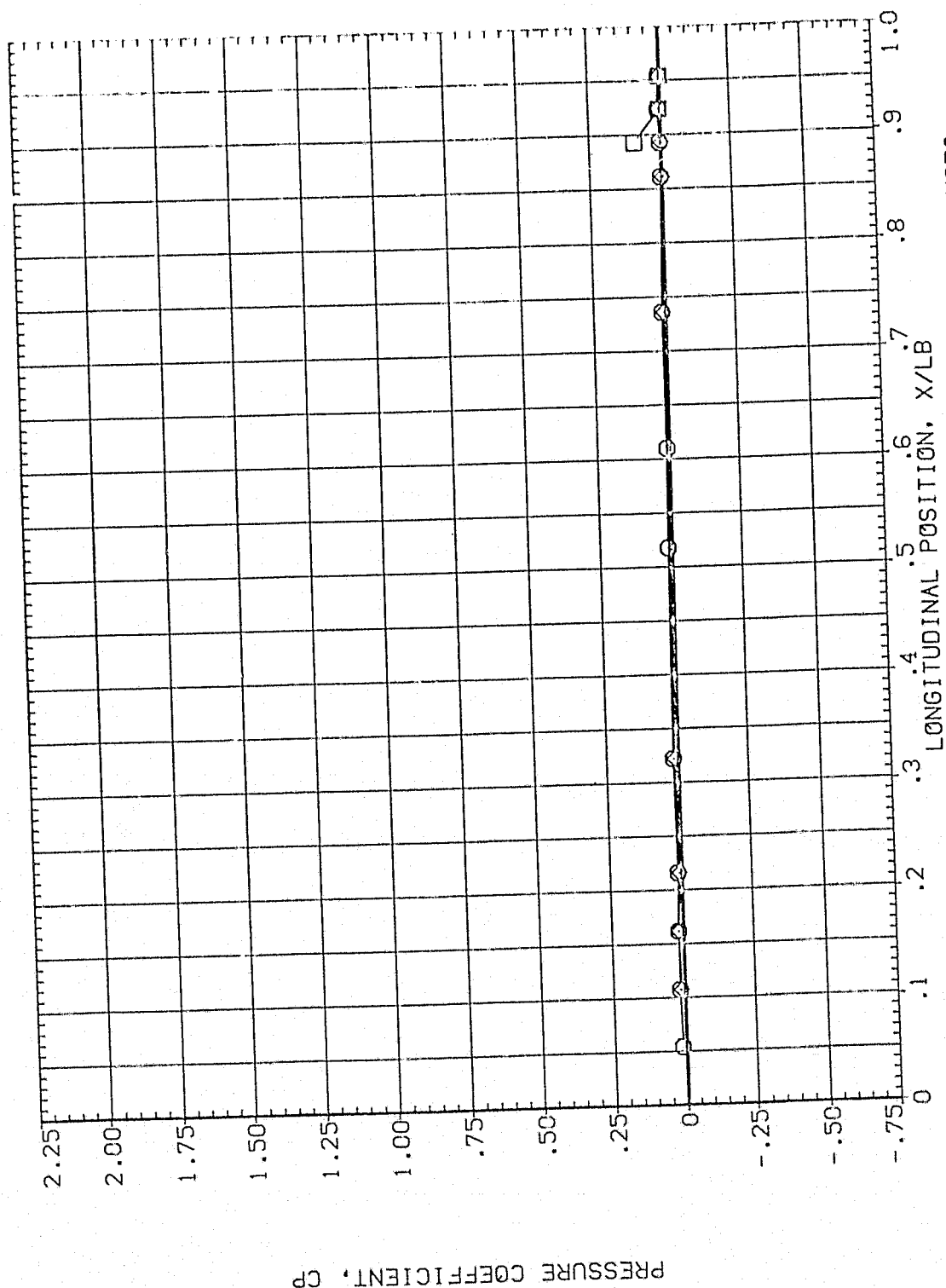


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 □  
 ◇

THETA  
 .000  
 14.000  
 24.000

ALPHA  
 81.830

MACH  
 4.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 2.000  
 90.000  
 OFFSET  
 PHI  
 .000

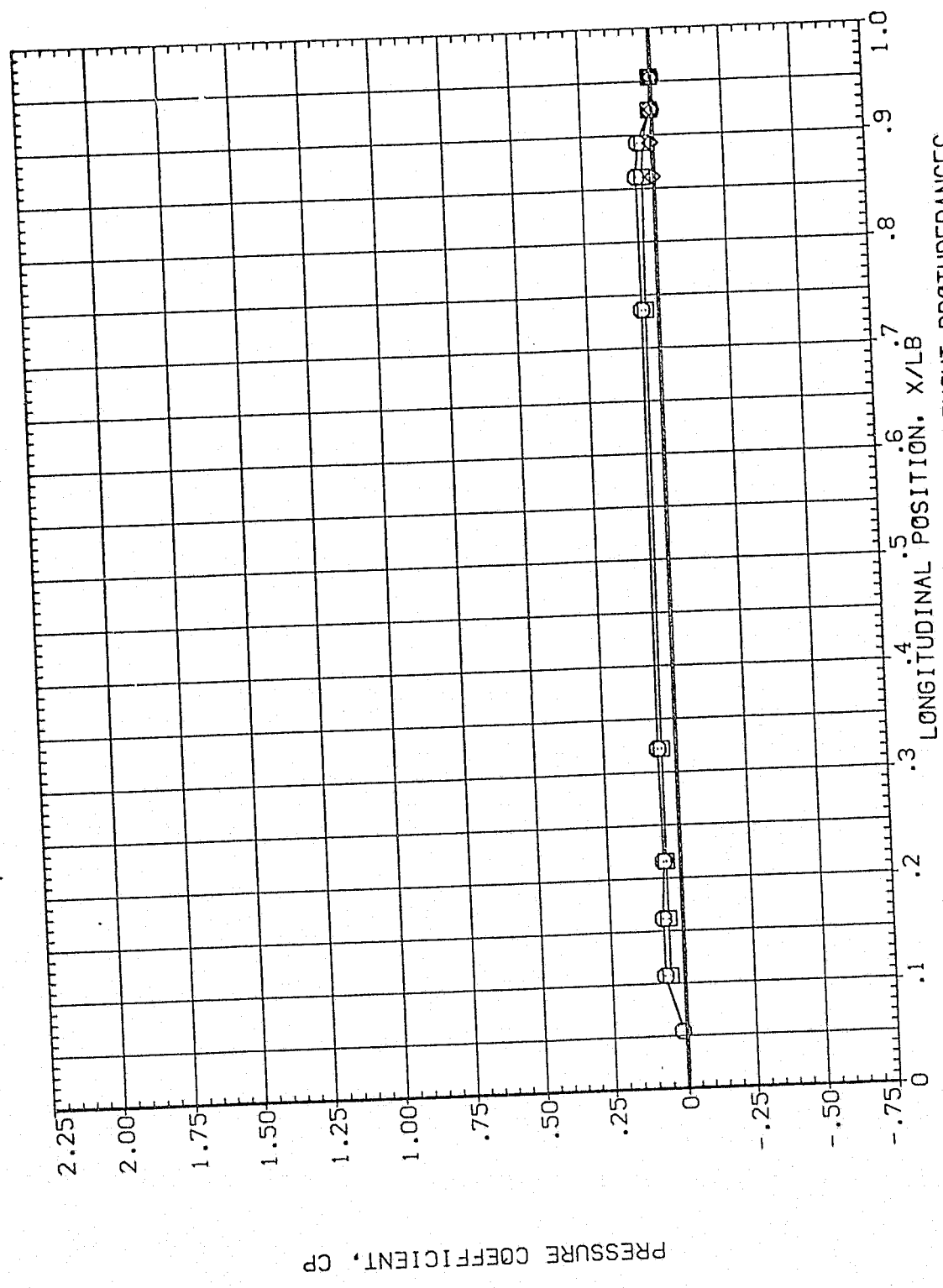


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	81.830	4.980	MOUNT	.000
□	67.500				2.000
◇	90.000				PHI

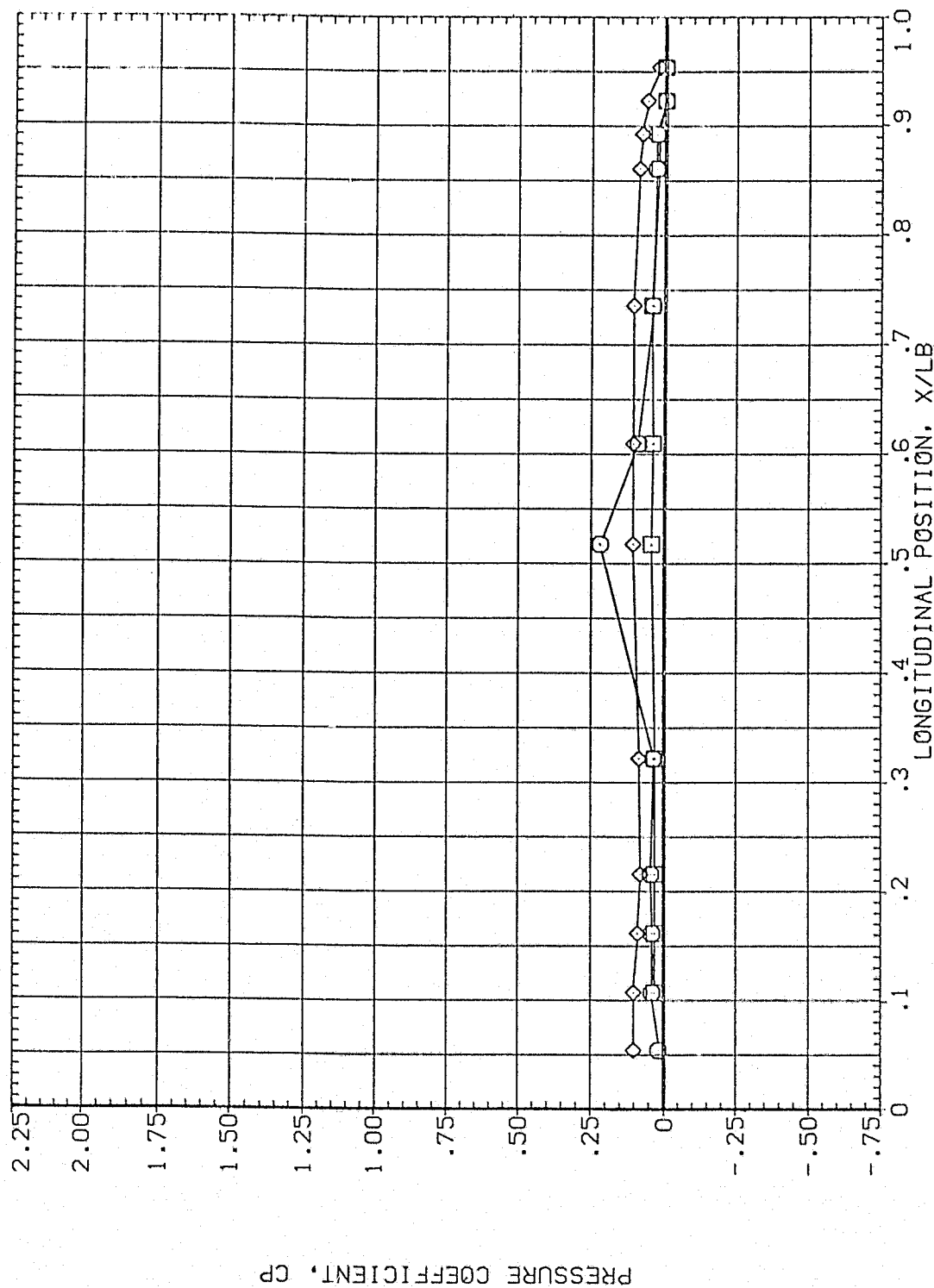


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	THETA		ALPHA	MACH	BETA		PARAMETRIC VALUES		
	112.500	135.000			HOUNT	OFFSET	.000	.000	90.000
○	135.000		81.830	4.960			2.000	P41	.000
□	157.500								
◇									

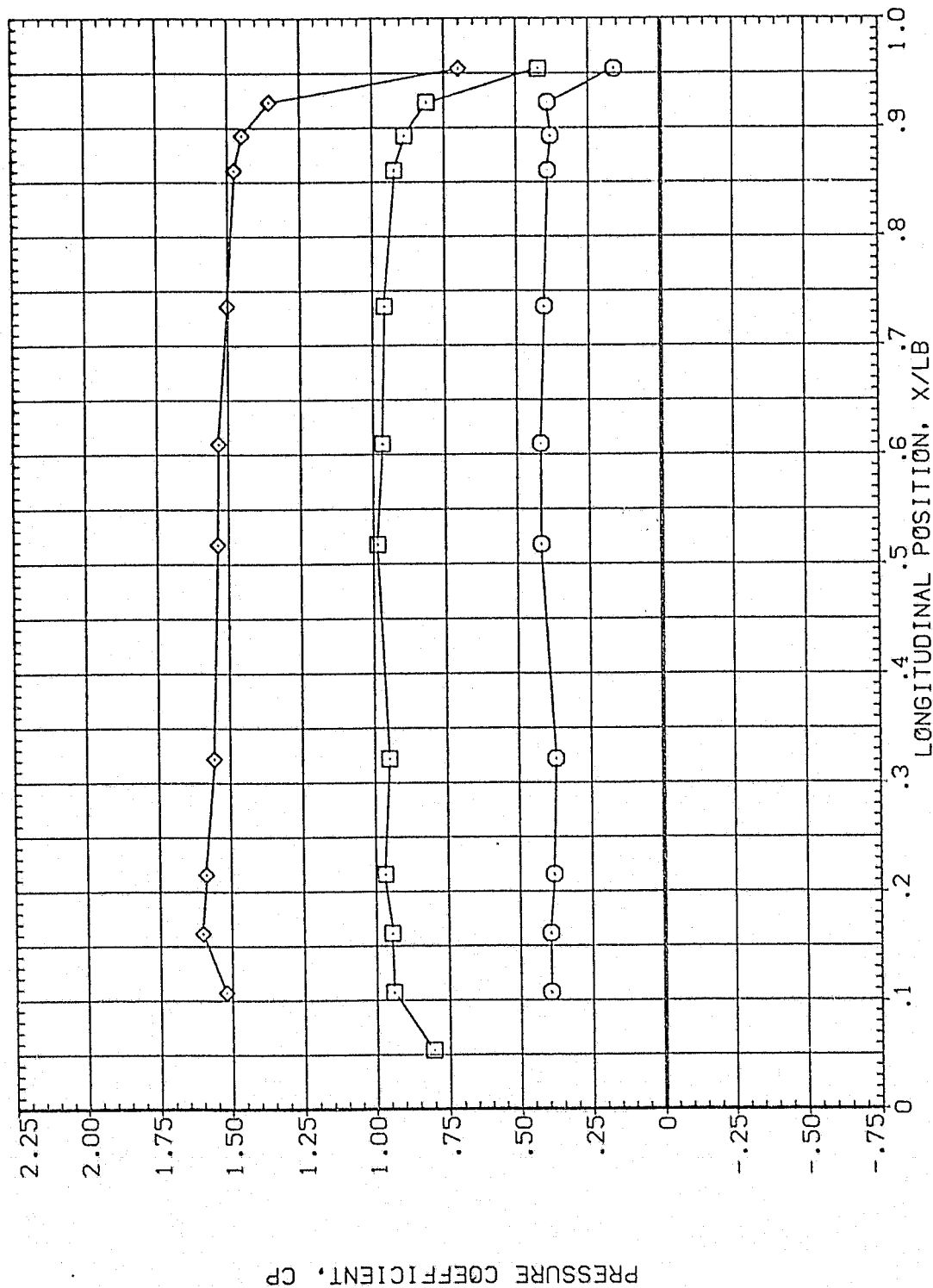


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA MOUNT	OFFSET PHI	90.000 .000
○	180.000	81.830	4.950			
□	202.500					
◇	225.000					

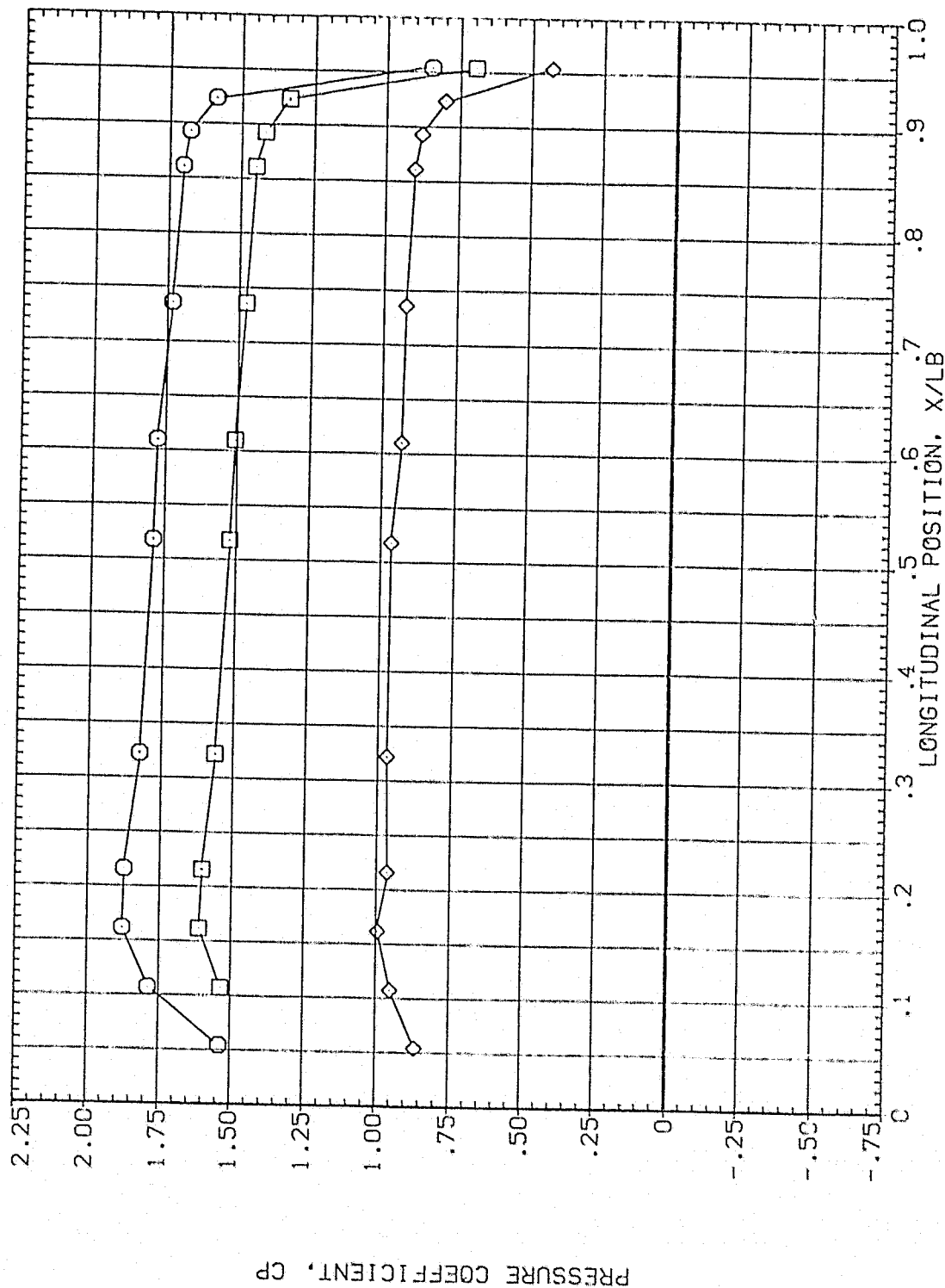


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	247.500	81.830	4.960	2.000	PHI	.000
□	270.000					
◇	292.500					

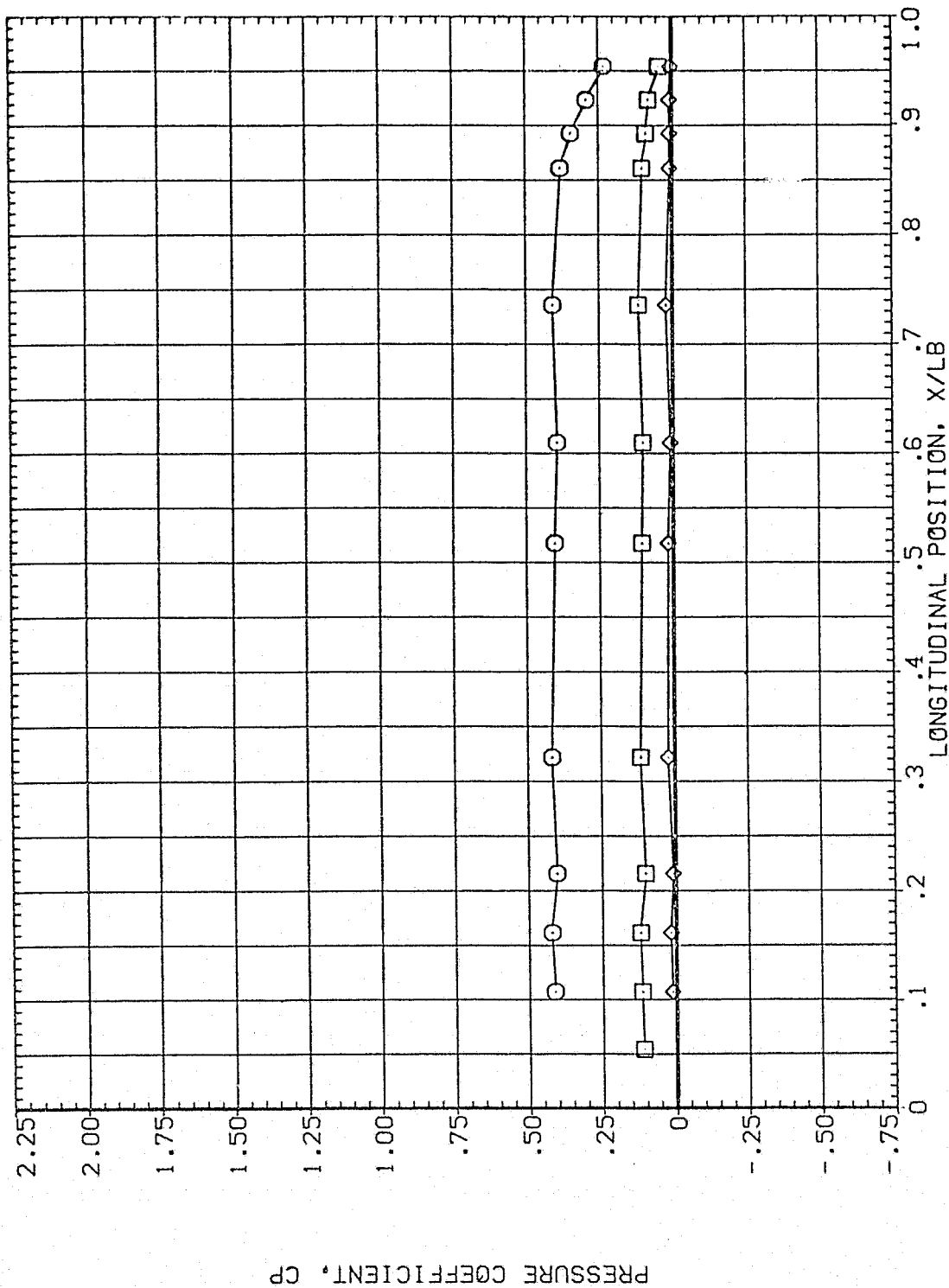


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	315.000	81.830	4.960	BETA	.000	OFFSET	90.000	PHI	.000	
○	326.000			MOUNT	2.000					
◇	346.000									

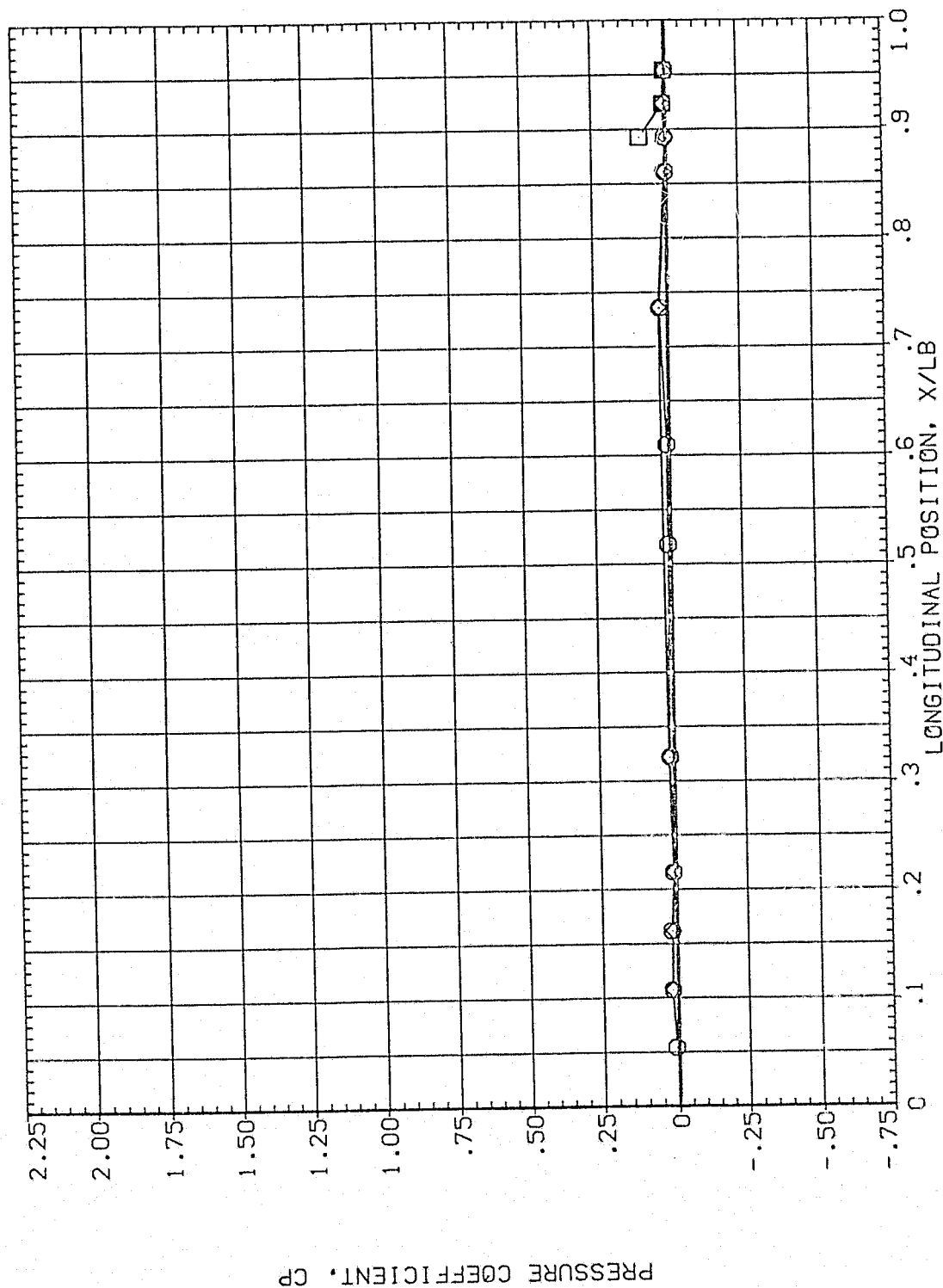


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA074)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES			
	.000	14.000	84.830	84.830	4.960	4.960	BETA	.000	OFFSET	90.000
□	14.000						HOUNT	2.000	PHI	.000
◇	24.000									

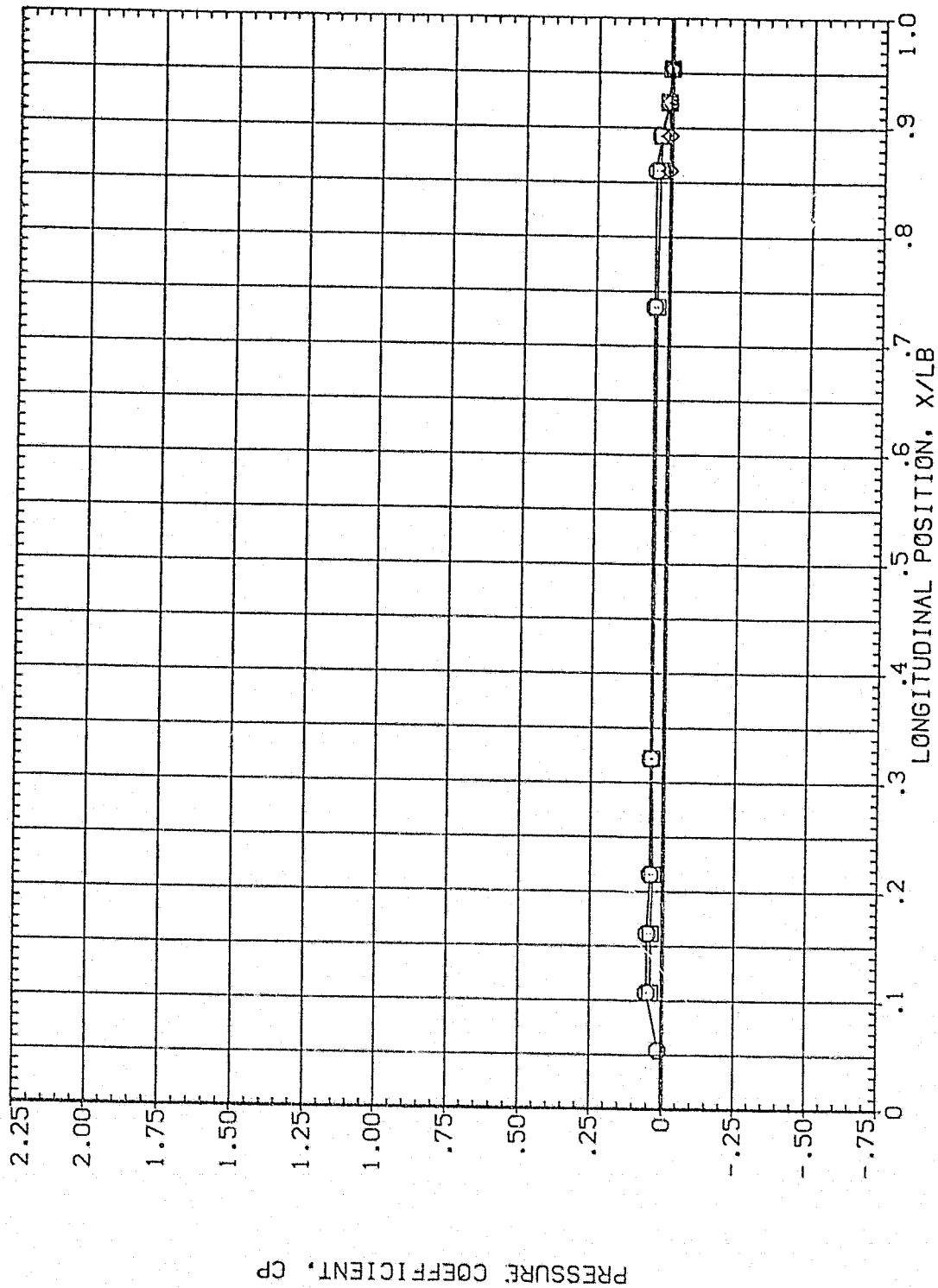


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL THETA ALPHA MACH  
 ○ 45.000 84.830 4.960  
 □ 67.500  
 ◇ 90.000

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

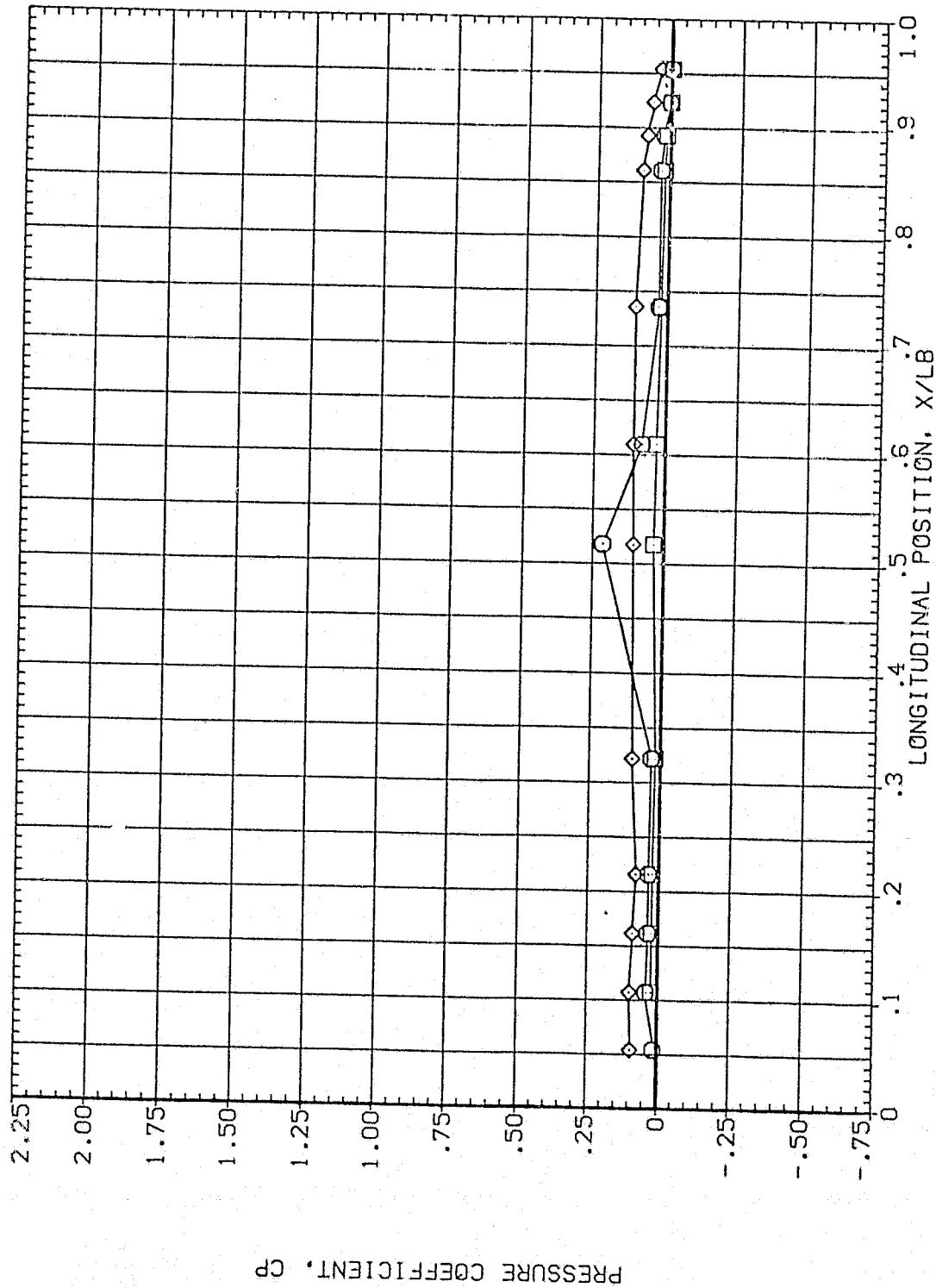


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

# MSFC 593 (1A-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	112.500	82.930	4.960	MGUNT	.000 OFFSET
□	135.000				2.000 PHI
◇	157.500				90.000

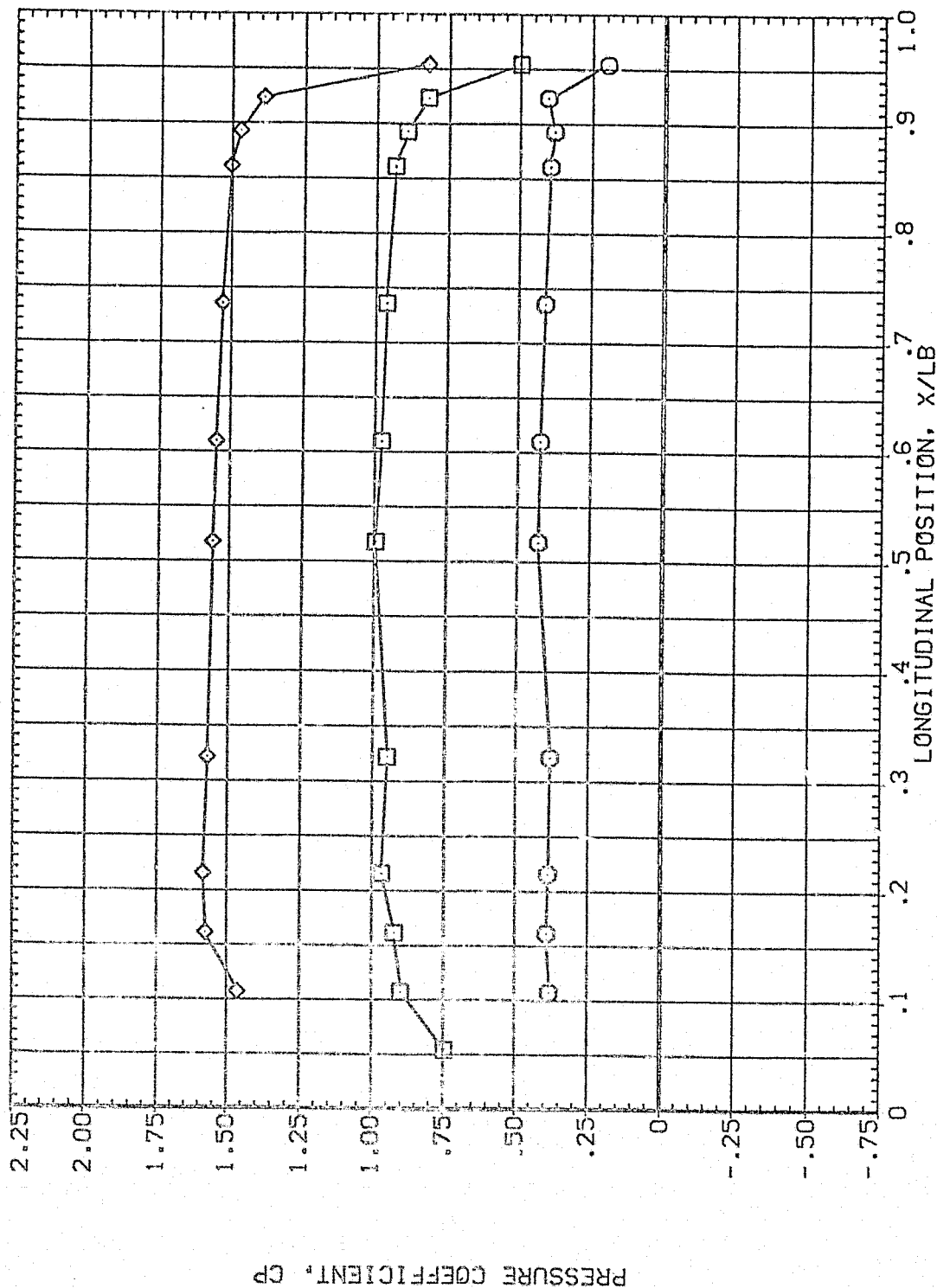


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	84.830	4.960	HEIGHT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				.000

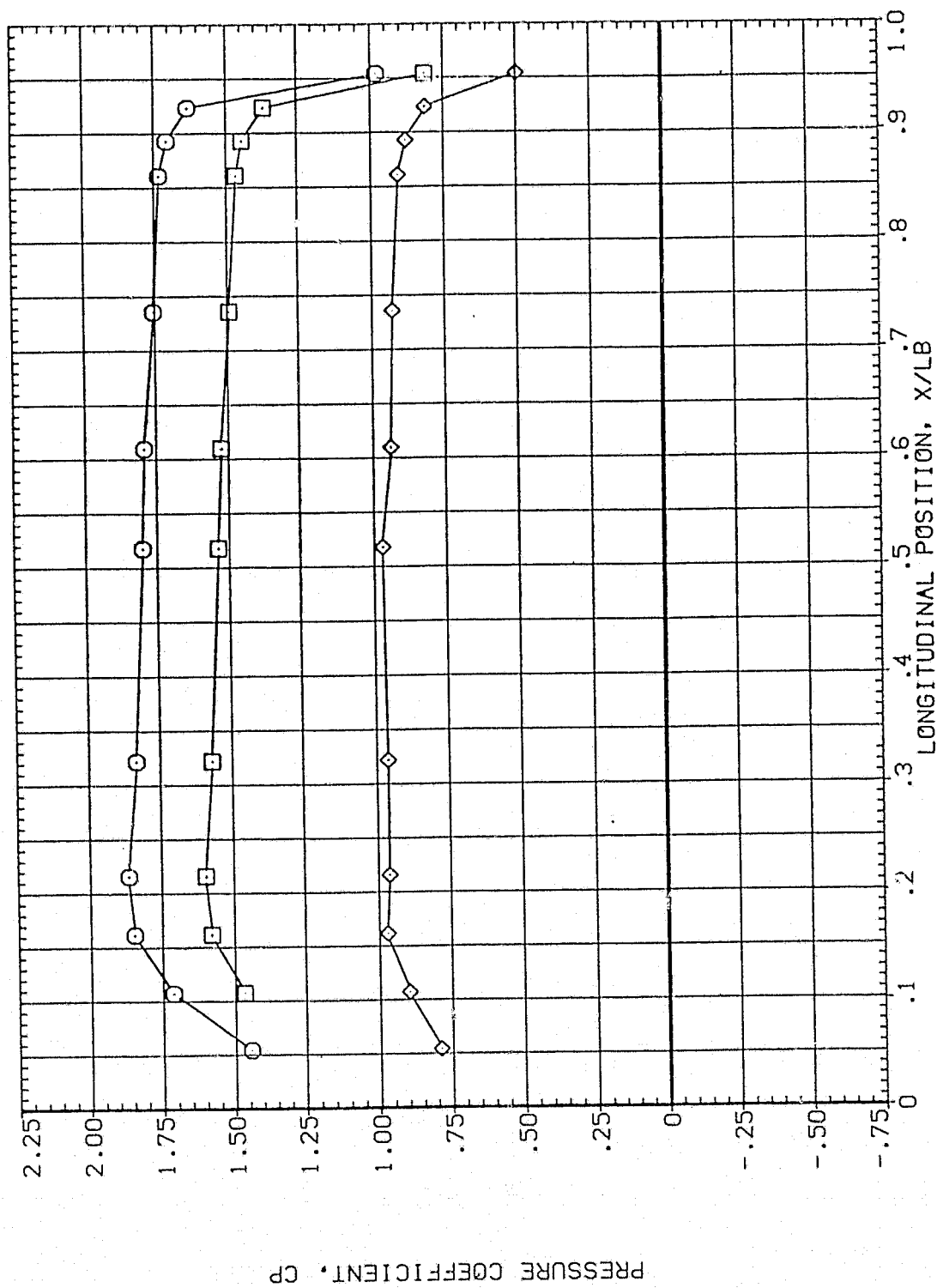


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	247.500	84.830	4.960	MOUNT	2.000	PHI
□	270.000					.000
◇	292.500					

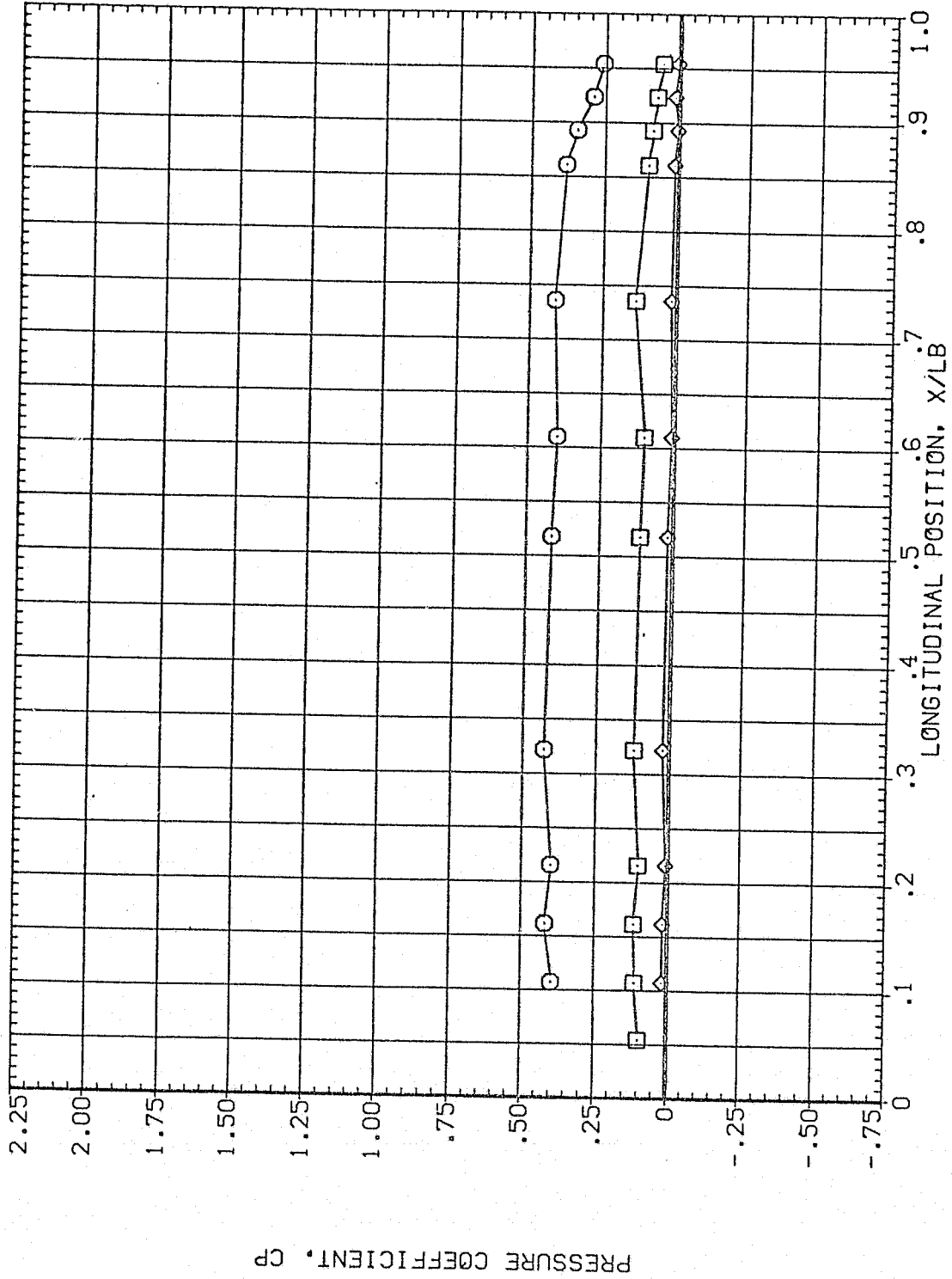


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	315.000	84.830	4.960	Mount	2.000	.000
◇	326.000					
◇	346.000					

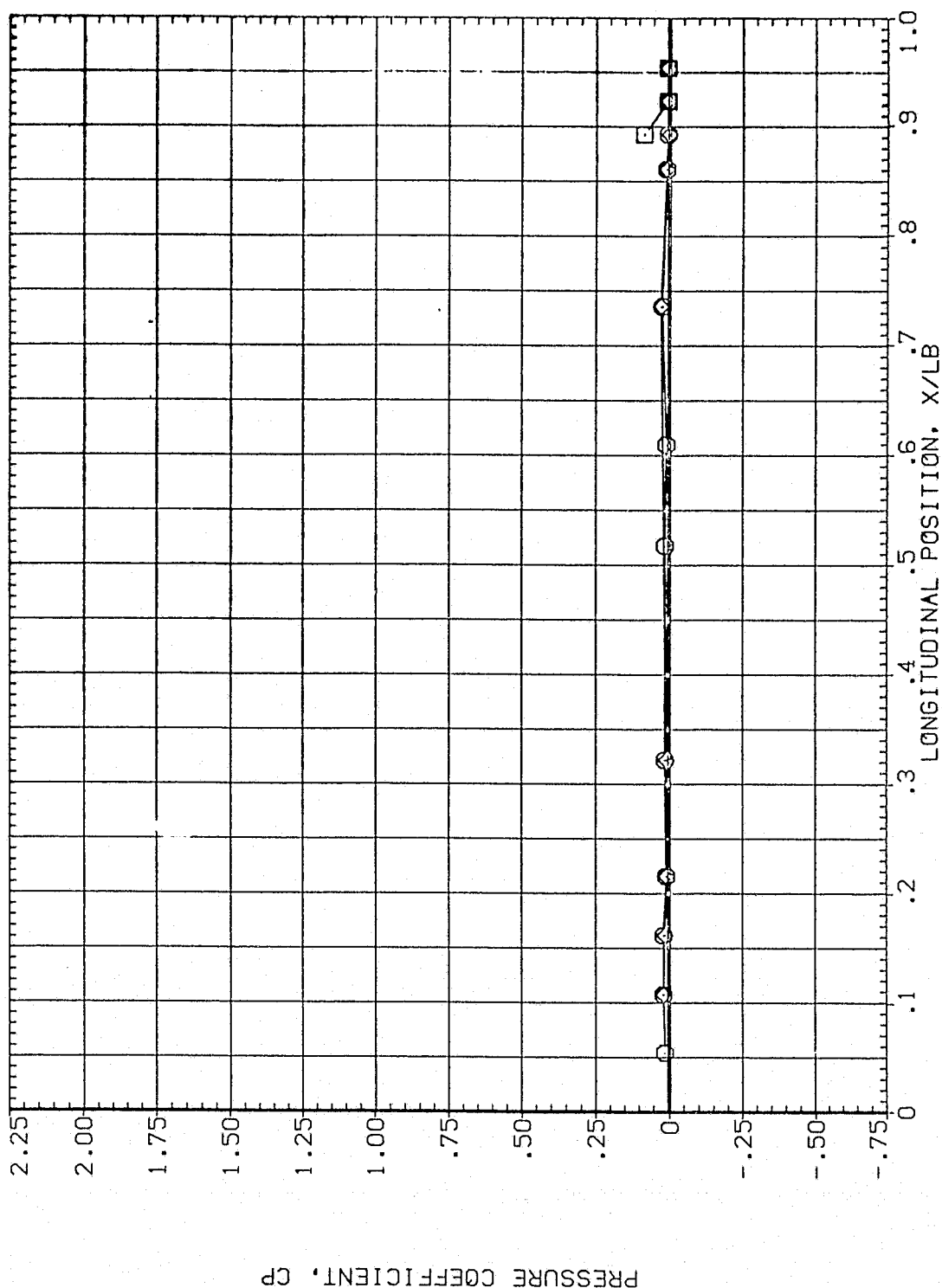


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	THETA	ALPHA	HACH	BETA	PARAMETRIC VALUES
○	.000	87.830	4.960	MOUNT	.000
□	14.000				OFFSET
◇	24.000				PHI
					90.000
					.000

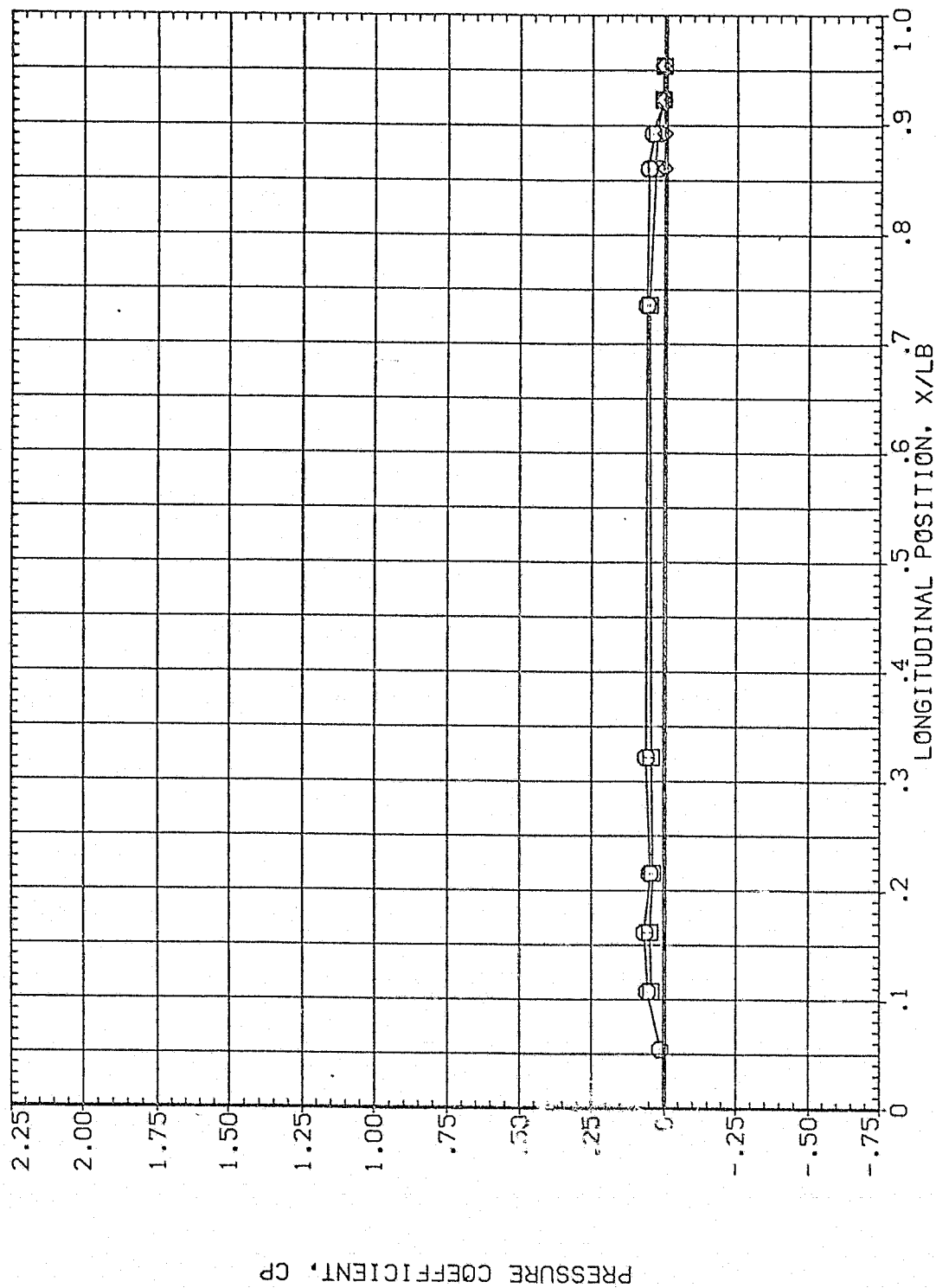


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES		
◇	45.000	87.830	4.960	MOUNT	.000	OFFSET	90.000
□	67.500				2.000	PHI	.000
◇	90.000						

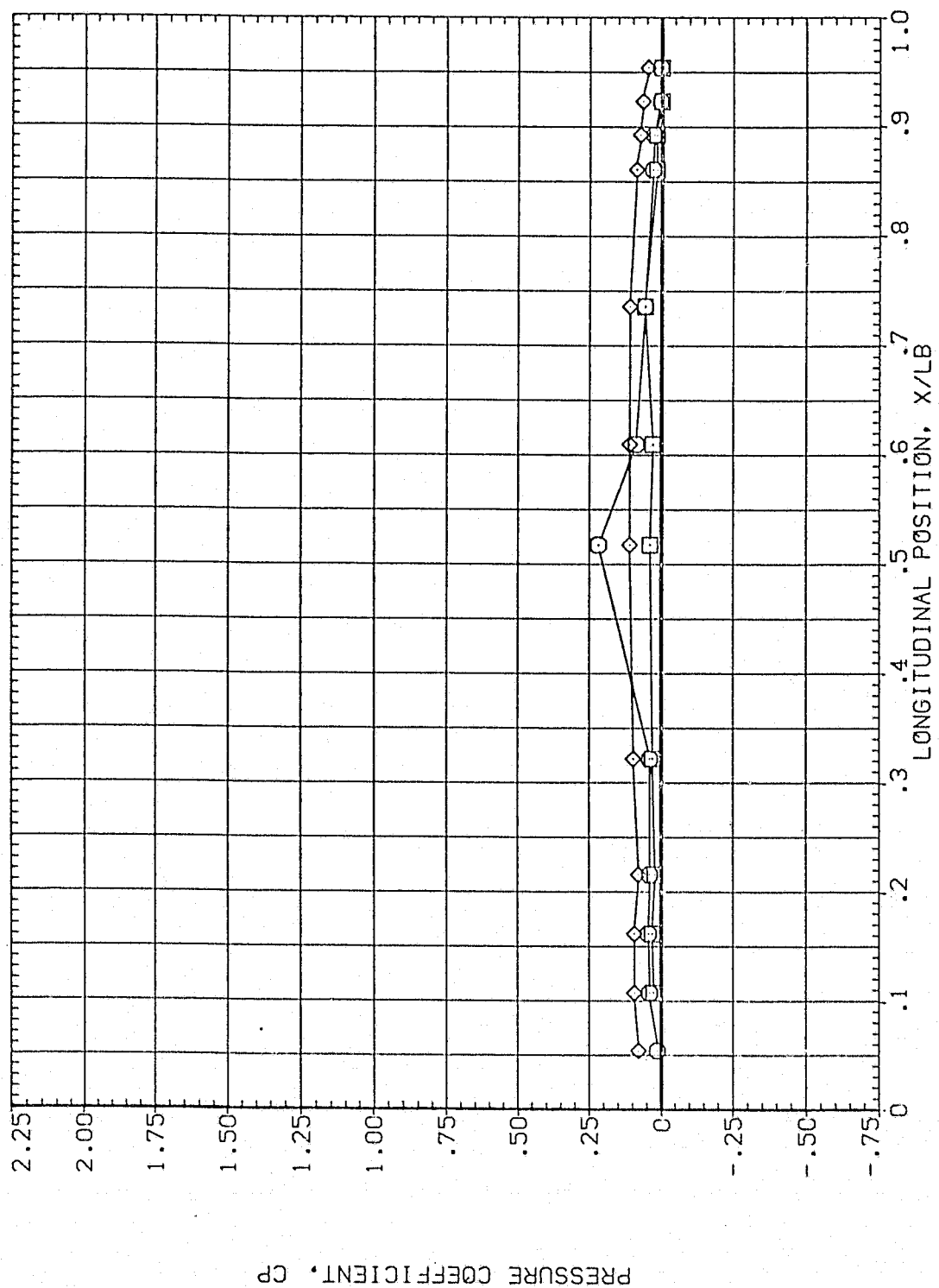


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	87.830	4.960	.000	.000	.000
□	135.000			2.000		
◇	157.500					

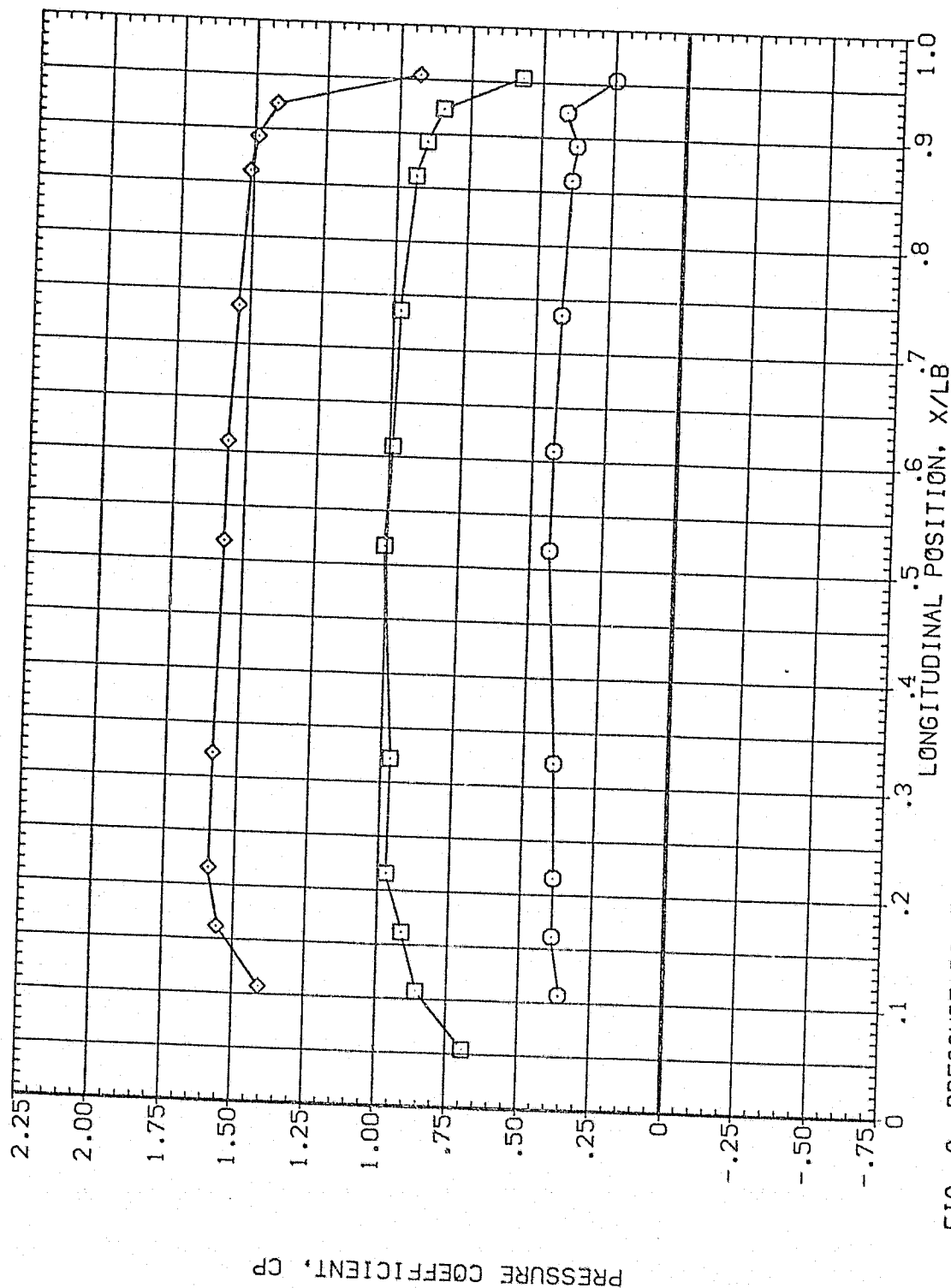


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

THETA	ALPHA	MACH	PARAMETRIC VALUES		
180.000	87.830	4.960	BETA	OFFSET	90.000
202.500			MOUNT	PHI	.000
225.000					

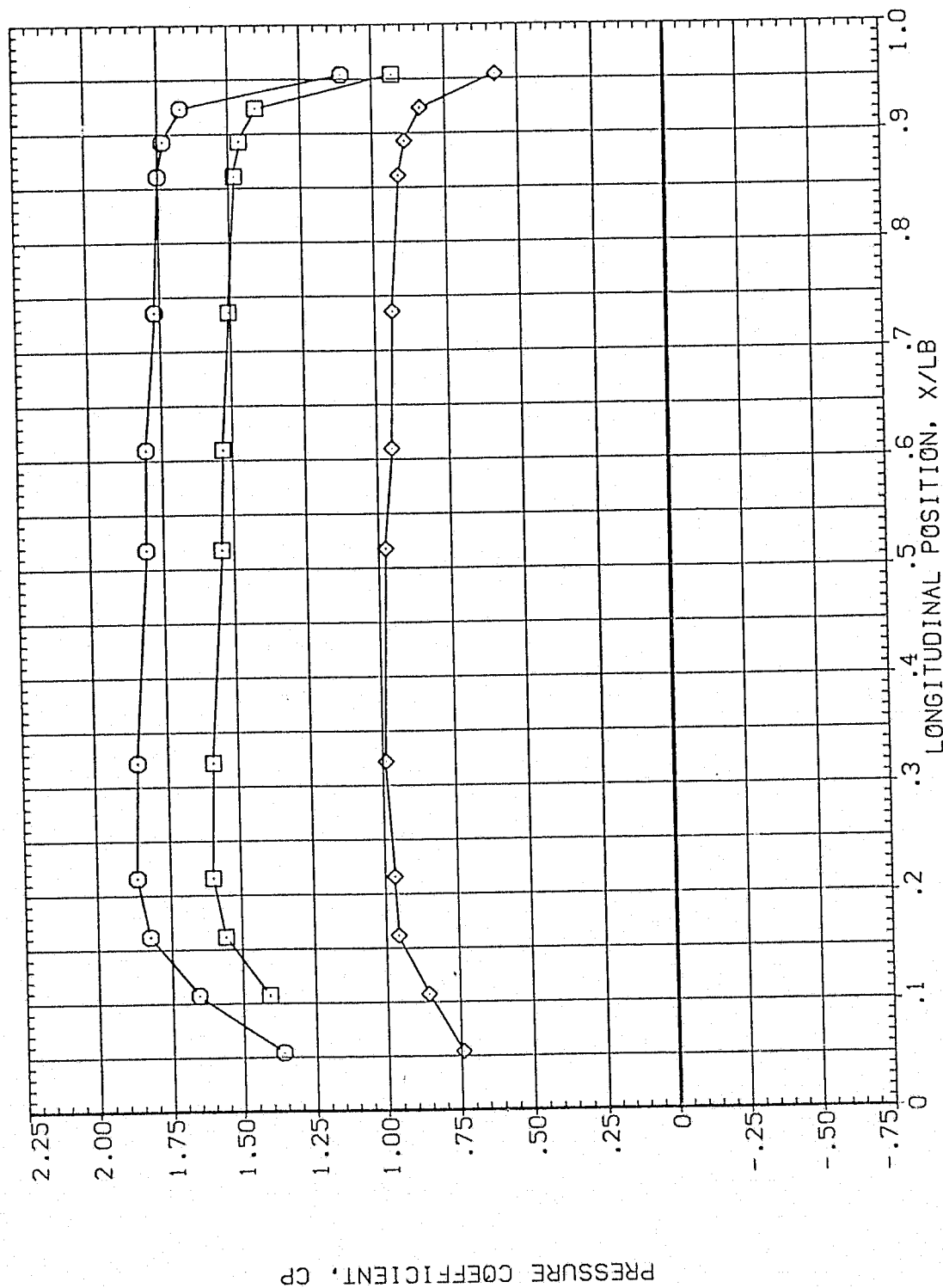


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA075)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	247.500	87.830	4.960	MDUNT	2.000	.000
□	270.000					
◇	292.500					

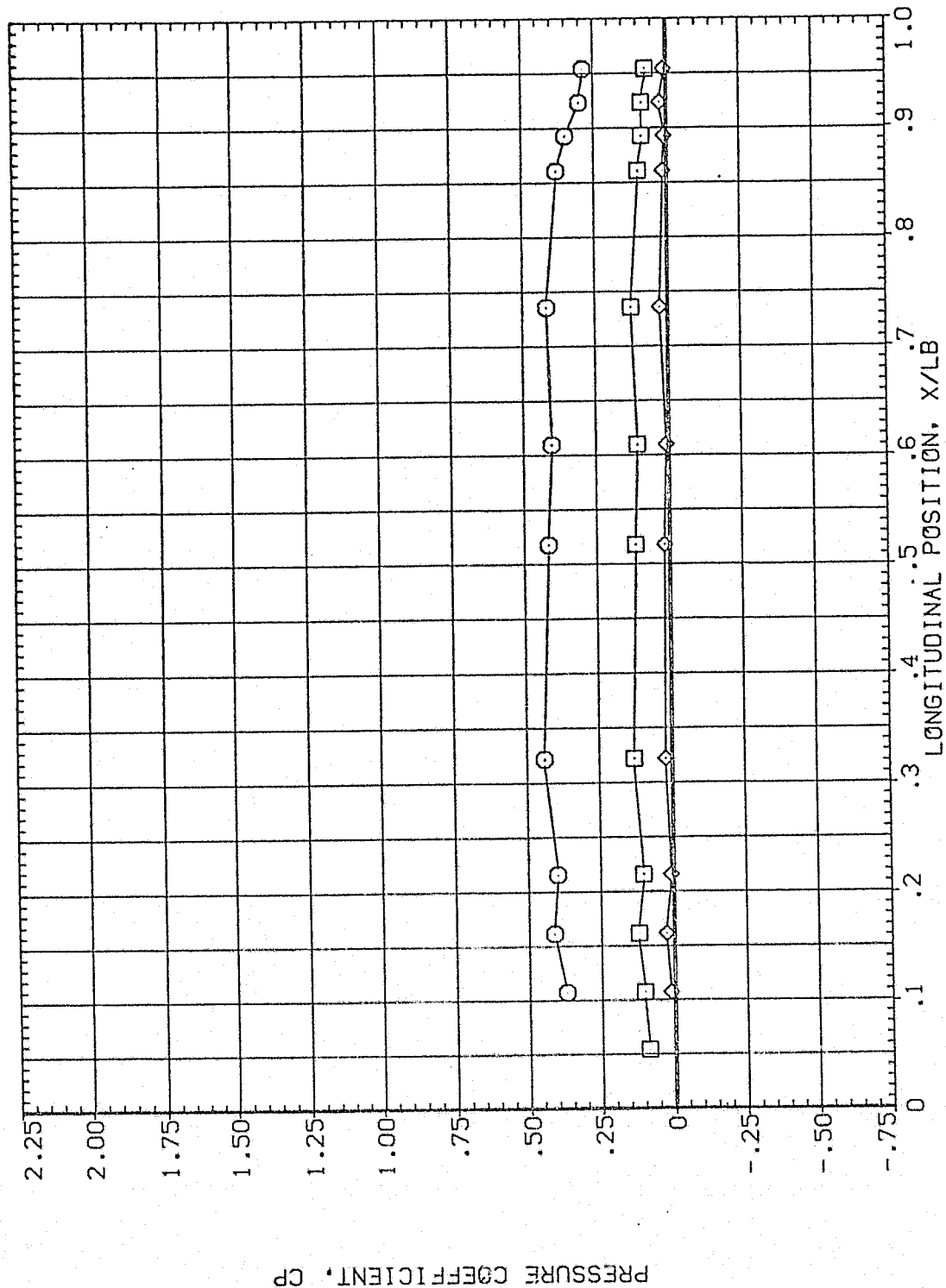


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 ○  
 □  
 ◇

THETA  
 315.000  
 326.000  
 346.000

ALPHA  
 87.830

MACH  
 4.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 2.000

90.000  
 .000

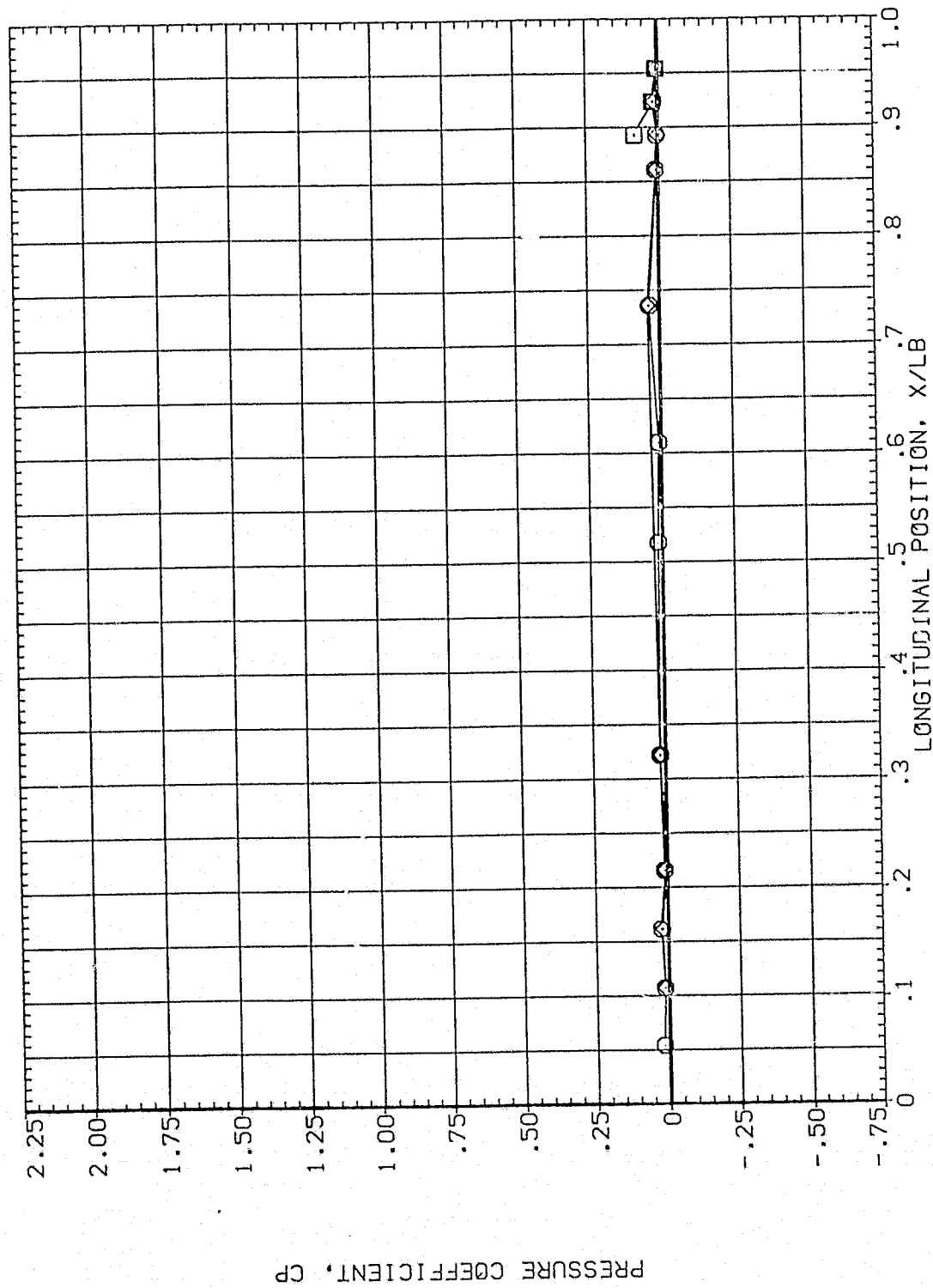


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL  
 ○  
 □  
 ◇

THETA  
 .000  
 14.000  
 24.000

ALPHA  
 89.830

MACH  
 4.960

PARAMETRIC VALUES

90.000  
 .000

OFFSET  
 PHI

2.000  
 .000

BETA  
 MOUNT

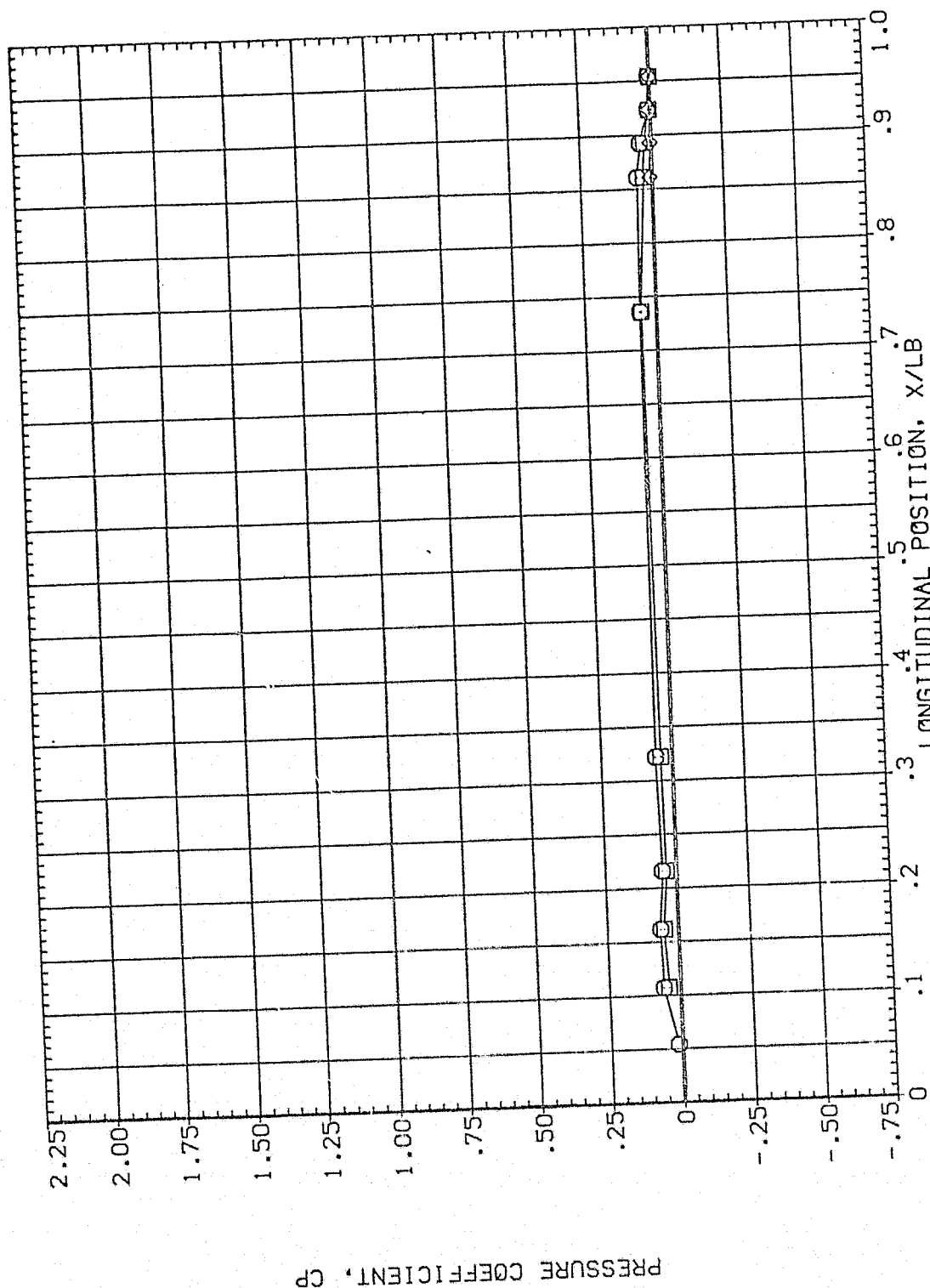


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL THETA ALPHA MACH  
 O 45.000 89.830 4.960  
 □ 67.500  
 ◇ 90.000

PARAMETRIC VALUES  
 BETA .000 OFFSET 90.000  
 MOUNT 2.000 PHI .000

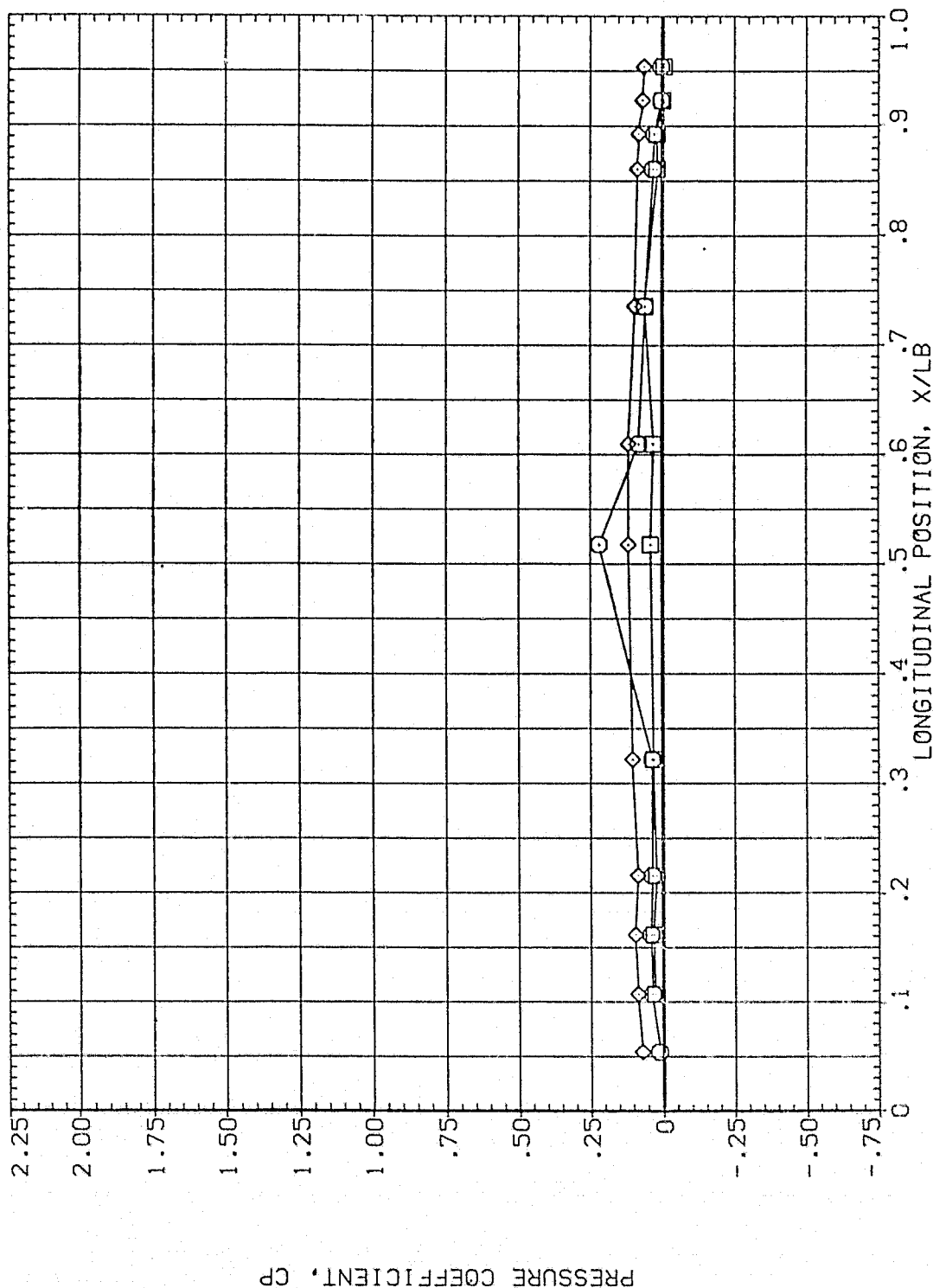


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL  
 ○  
 □  
 ◇

THETA  
 112.500  
 135.000  
 157.500

ALPHA  
 89.830

MACH  
 4.960

PARAMETRIC VALUES  
 BETA  
 MOUNT  
 .000  
 2.000  
 .000  
 .000  
 PHI

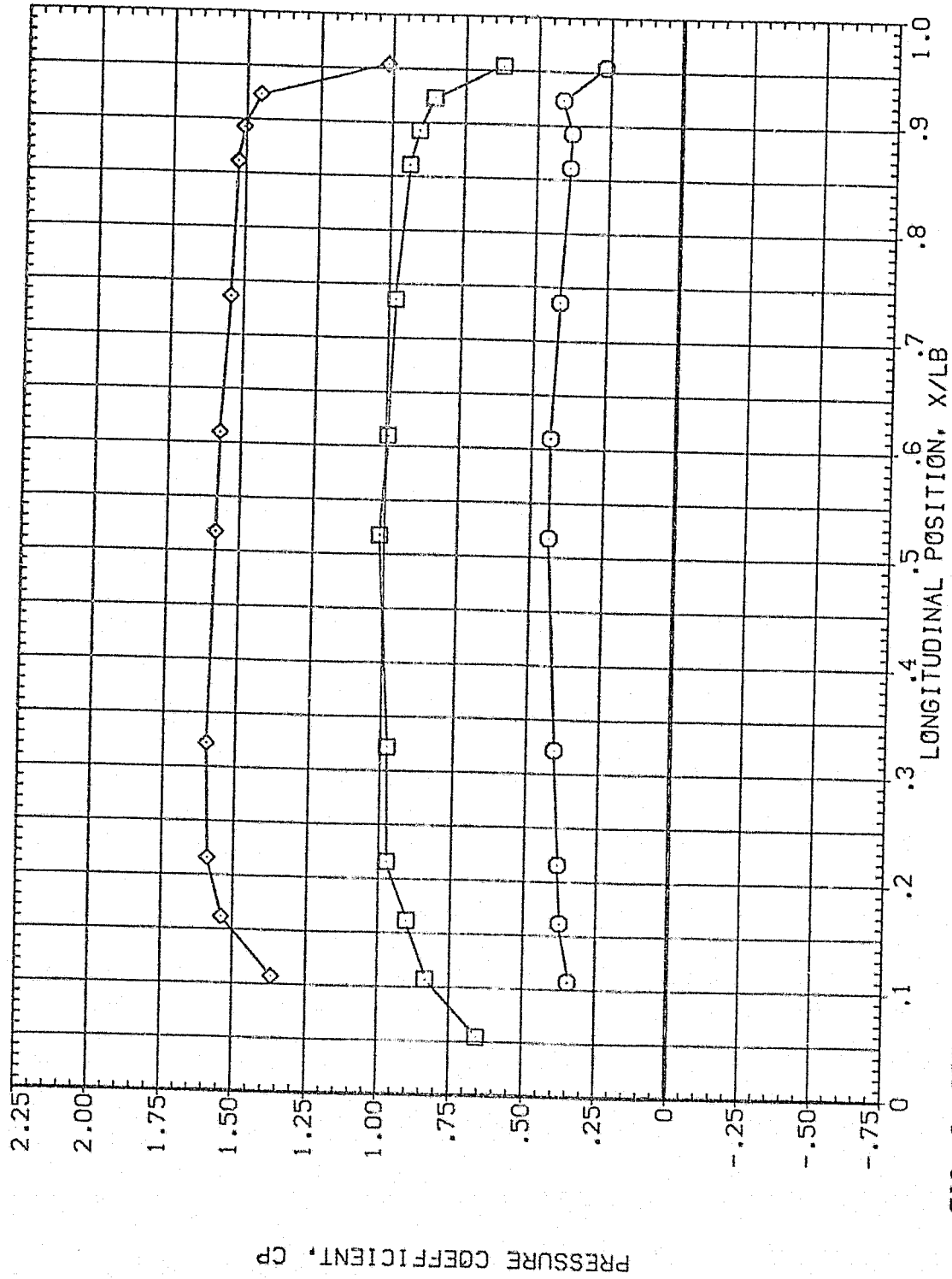


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

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 ORIGINAL PAGE IS PROHIBITED

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	180.000	89.830	4.960	2.000	.000	.000
□	202.500					
◇	225.000					

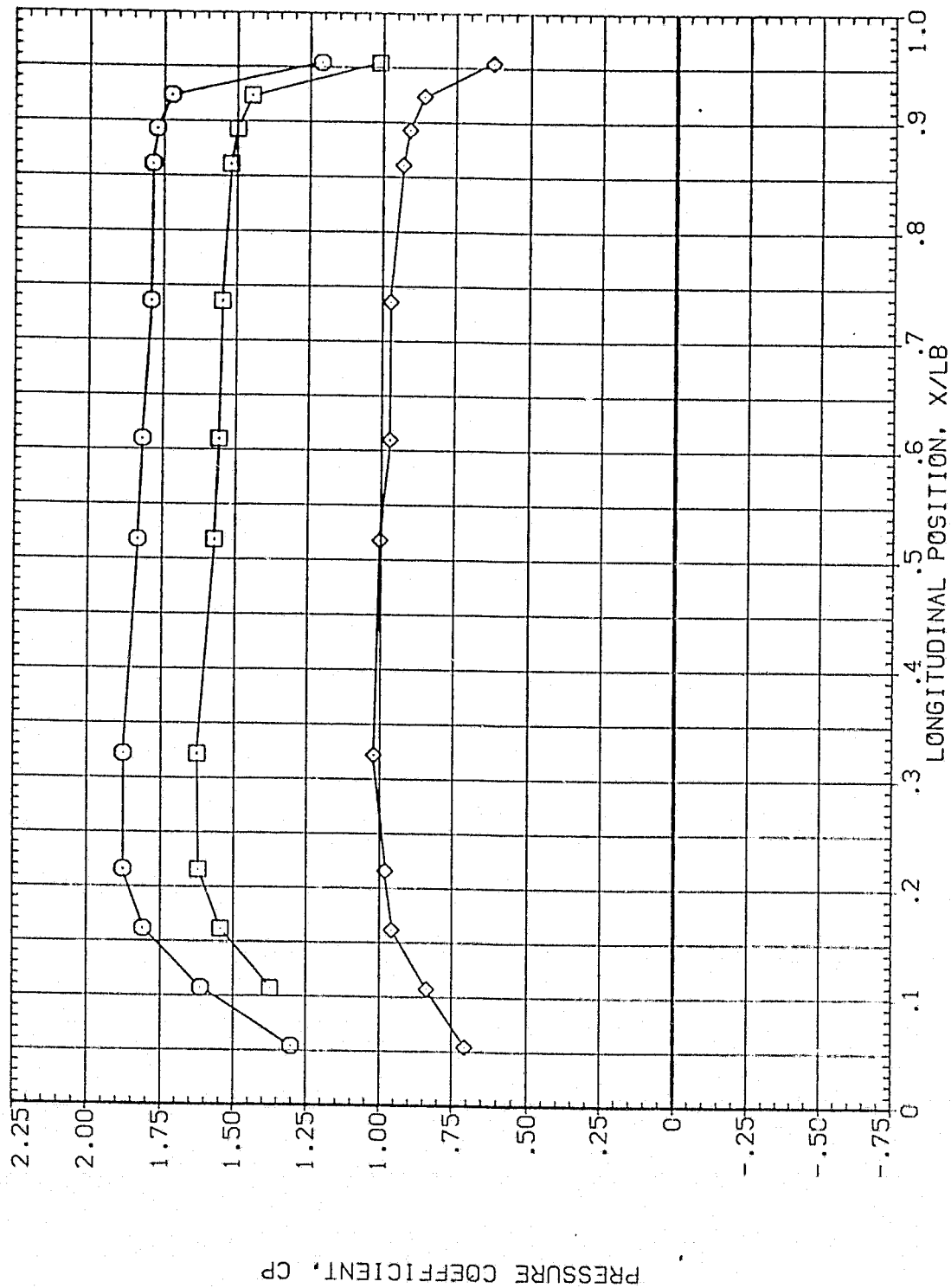


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



# MSFC 536 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL

BETA

ALPHA

MACH

247.500

83.830

4.960

270.000

292.500

(P1A076)

PARAMETRIC VALUES

.000

2.000

PHI

BETA

MOUNT

90.000

.000

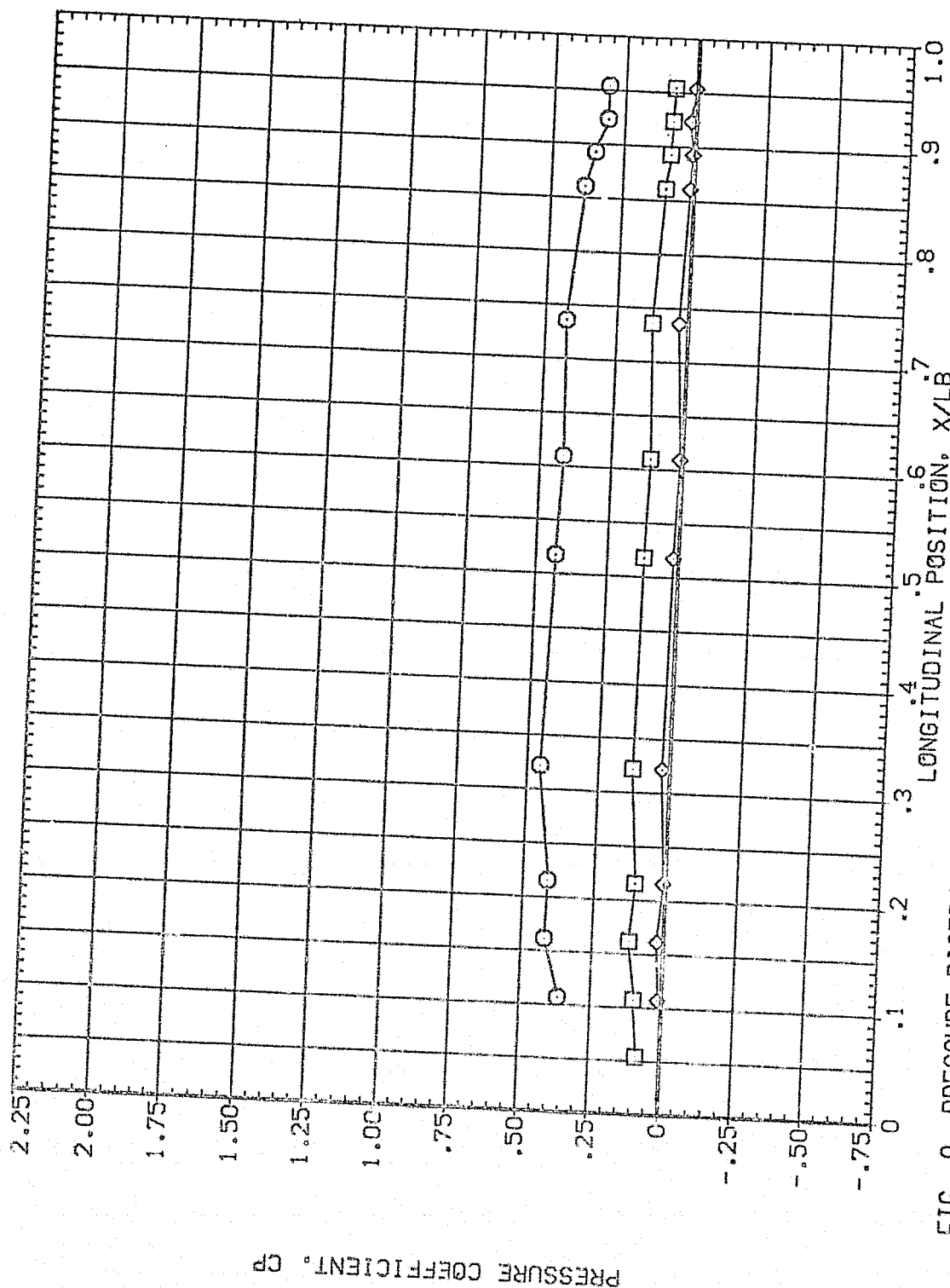


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL  
 ○  
 □  
 ◇

THETA  
 315.000  
 326.000  
 346.000

ALPHA  
 89.830

MACH  
 4.950

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 .000  
 2.000 PHI

90.000  
 .000

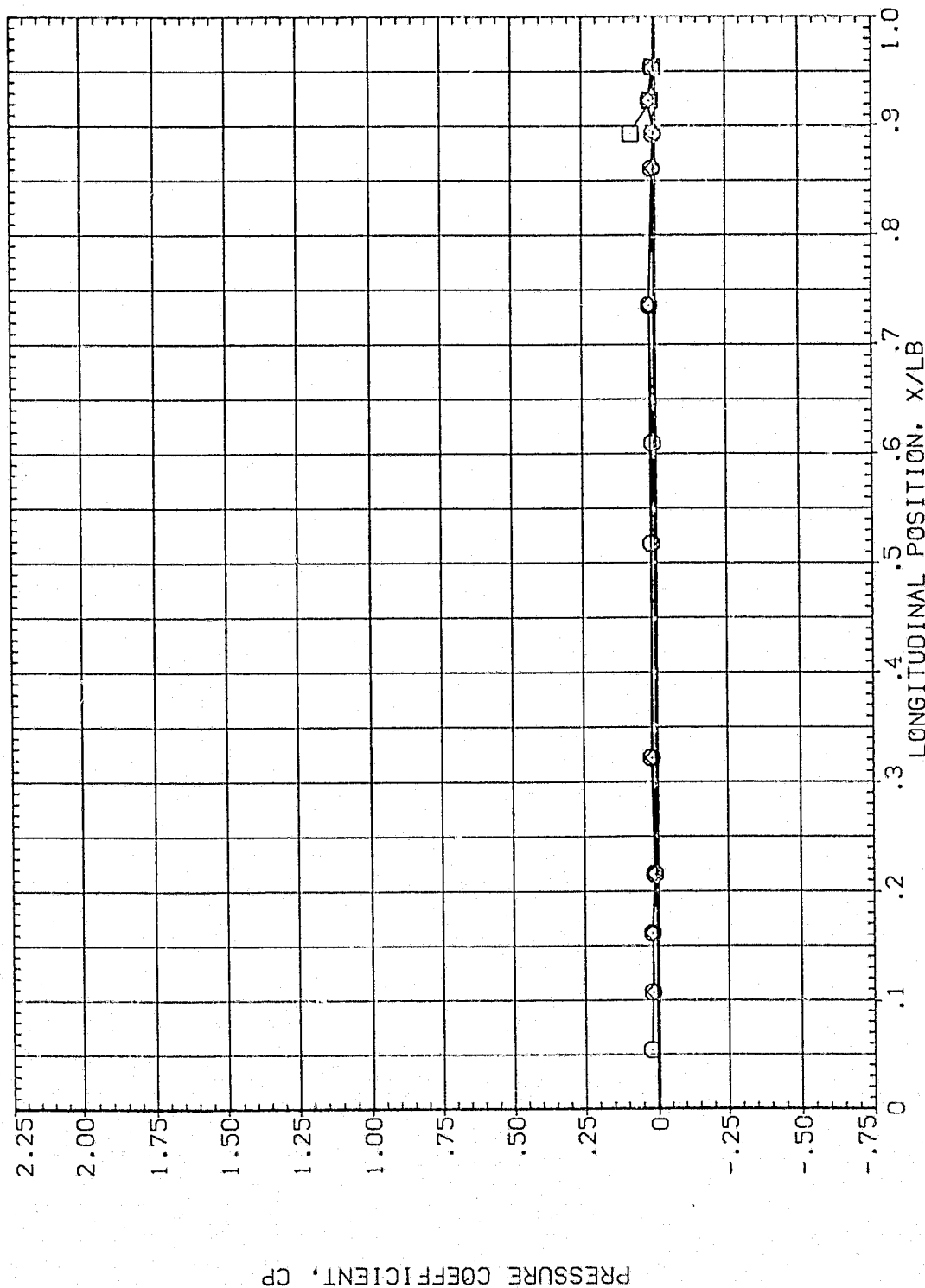


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.000	91.850	4.960	MOUNT	.000	90.000
◇	14.000				2.000	.000
◇	24.000					

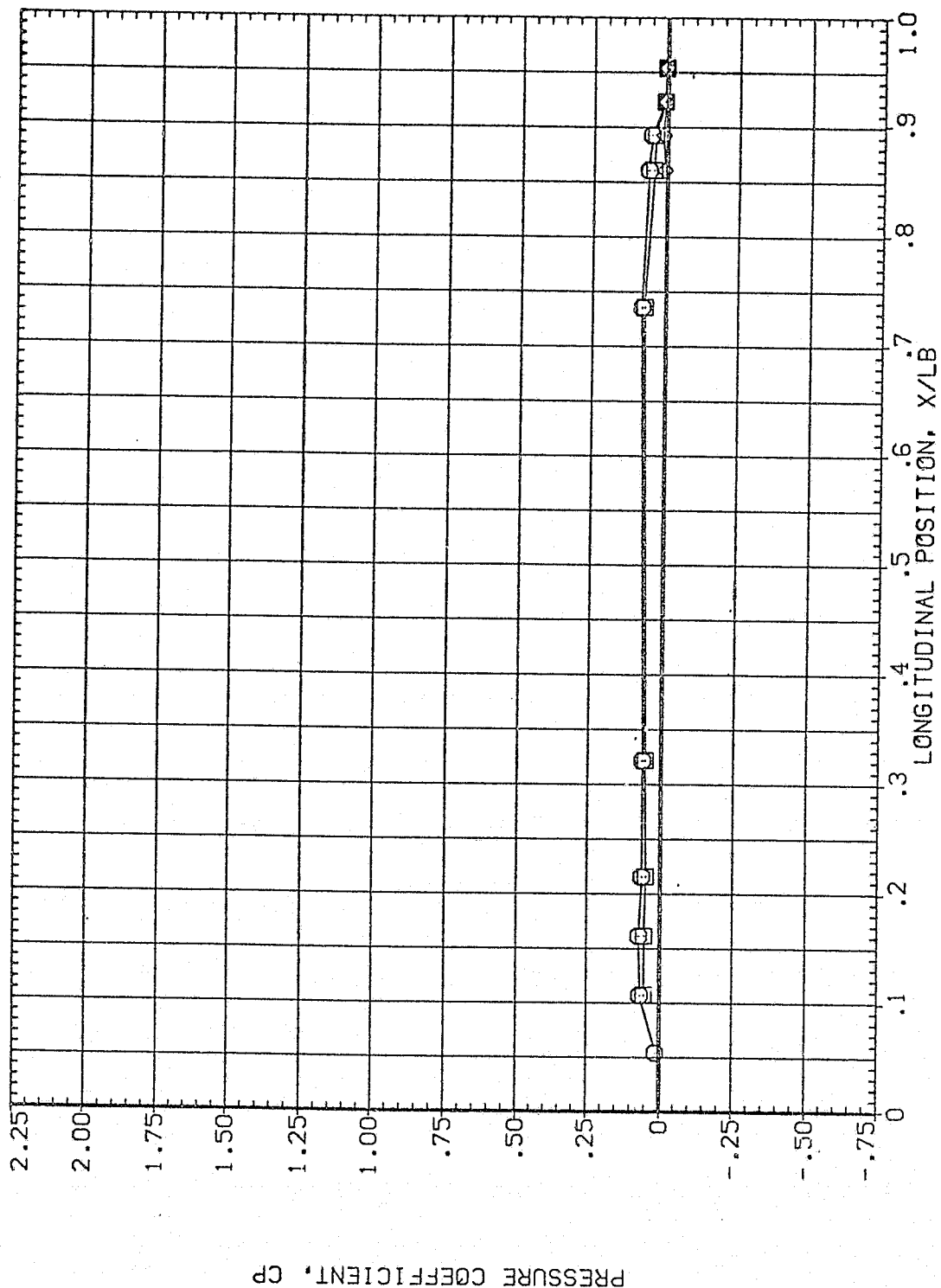


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	91.850	4.960	0.000	OFFSET
□	67.500			2.000	PHI
◇	90.000				

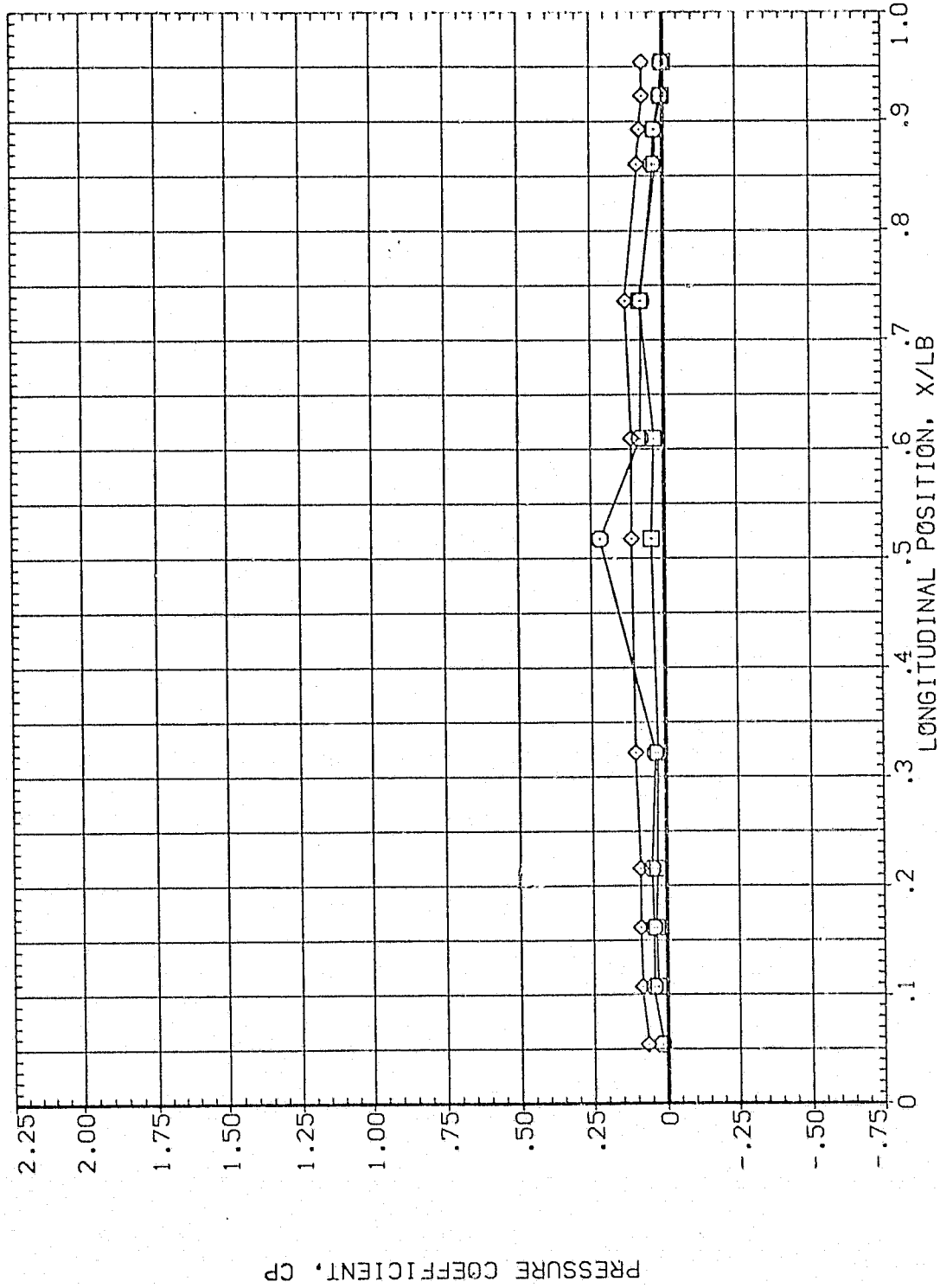


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	OFFSET	PHI	
○	112.500	91.850	4.960	MOUNT	.000		90.000
□	135.000				2.000		.000
◇	157.500						

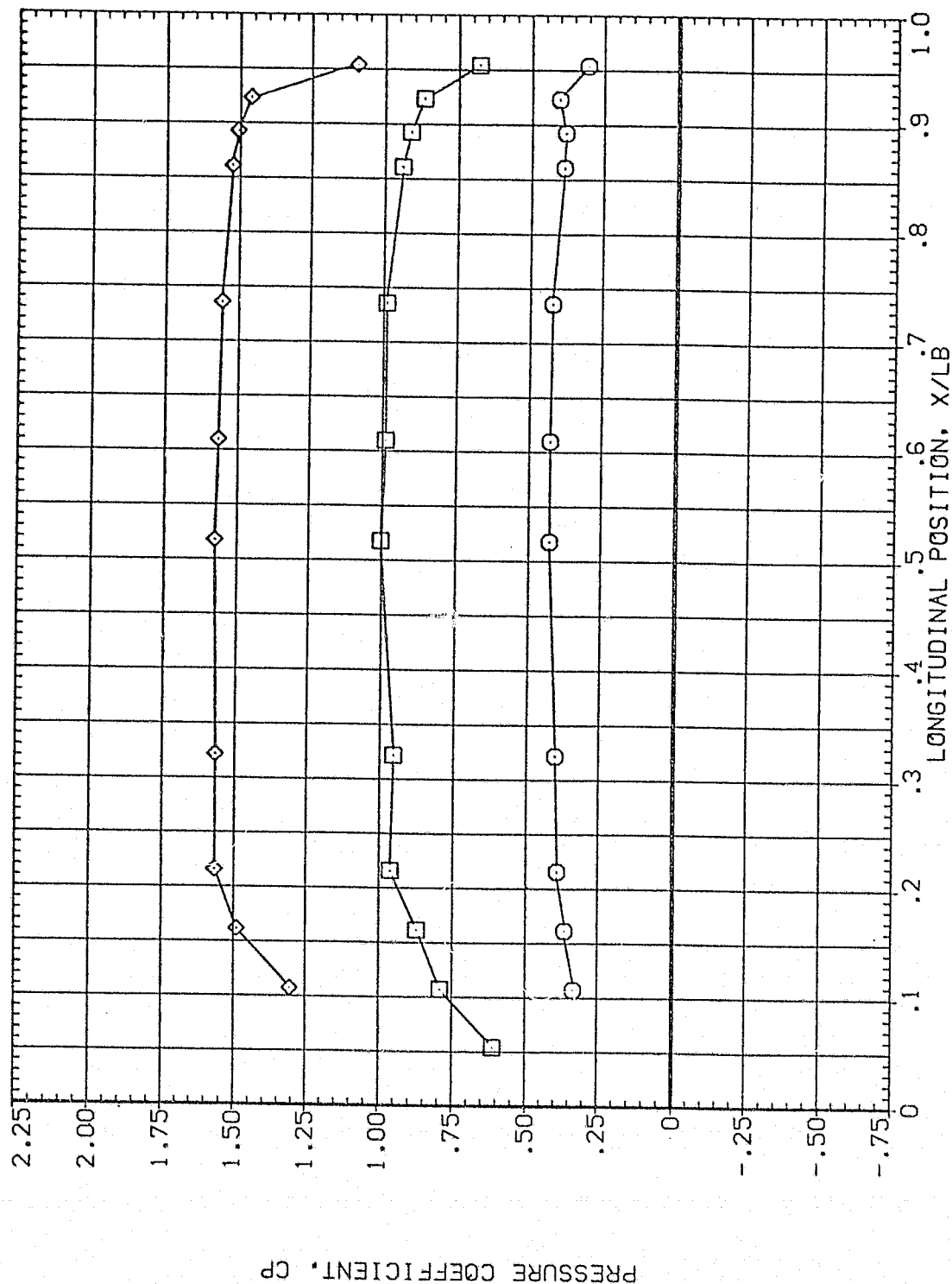


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A077)

SYMBOL

THETA  
180.000  
202.500  
225.000

ALPHA  
91.850  
MACH  
4.960

PARAMETRIC VALUES

BETA  
MOUNT  
90.000  
2.000  
OFFSET  
PHI  
.000

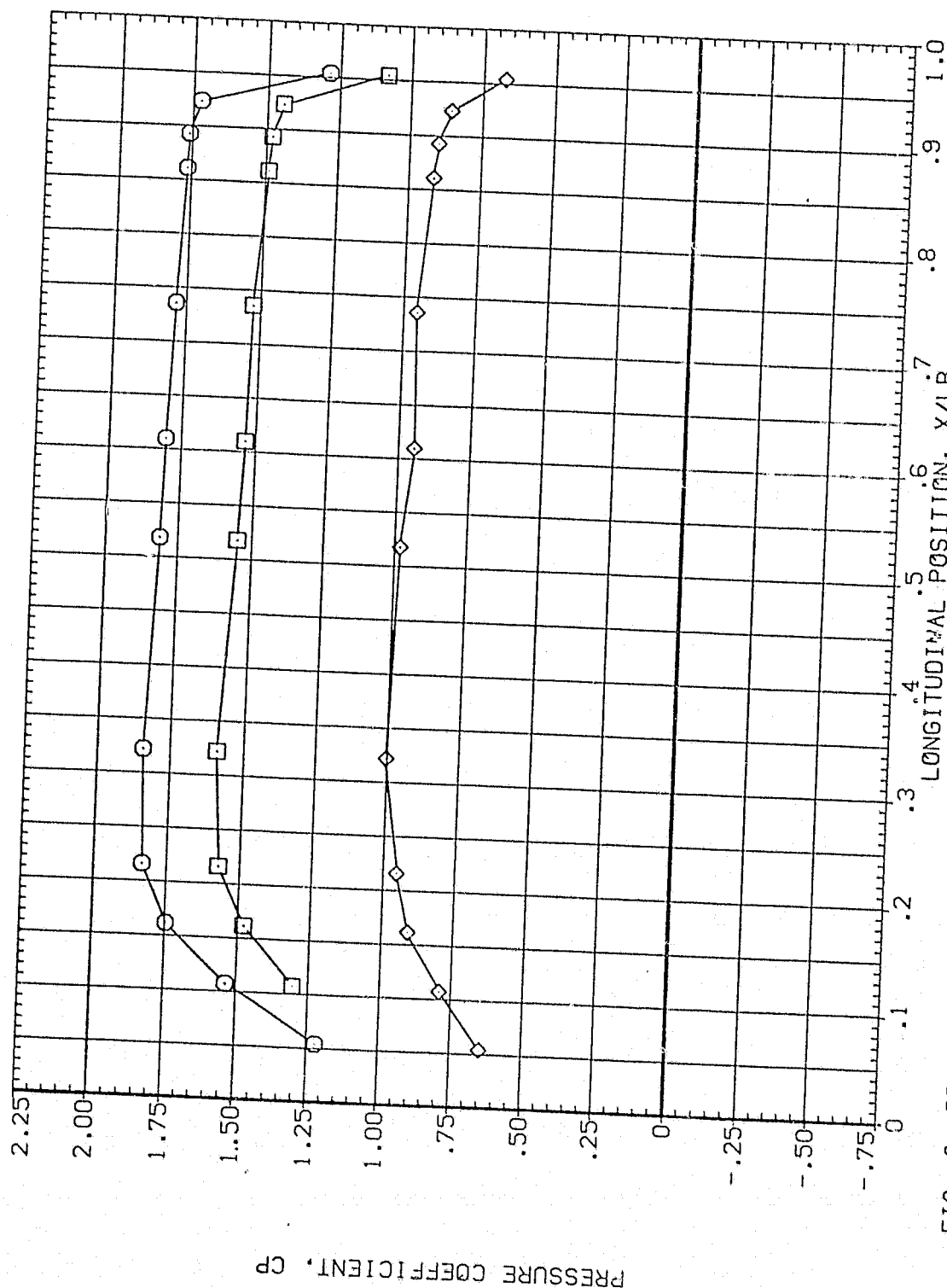


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL    THETA    ALPHA    MACH  
 ○    247.500    91.850    4.960  
 □    270.000  
 ◇    292.500

BETA    MOUNT    PH1    OFFSET    90.000  
 .000    .000    .000

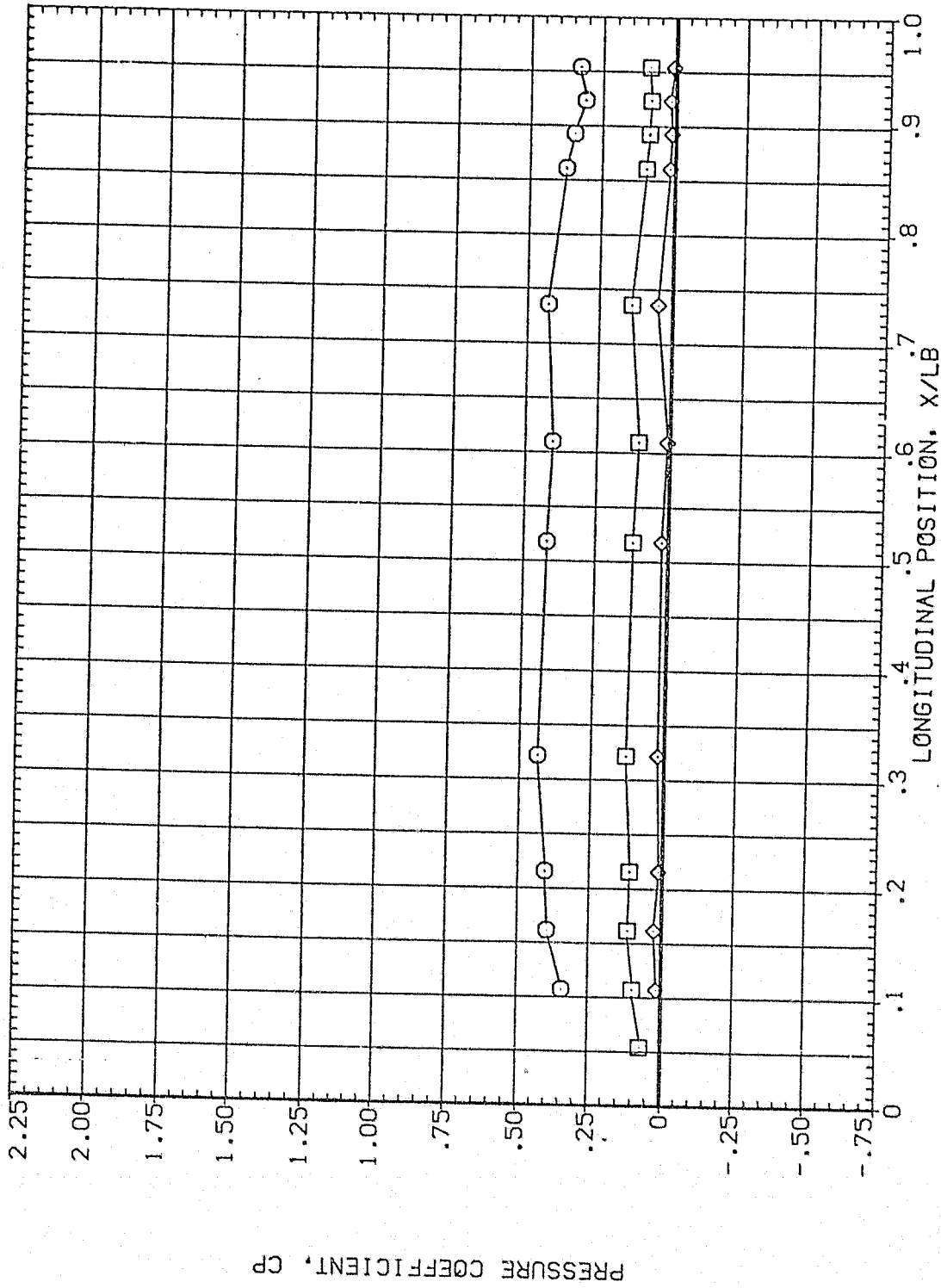


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
◇	315.000	91.850	4.960	MOUNT	.000 OFFSEY
□	326.000				2.000 PH1
◇	346.000				90.000 .000

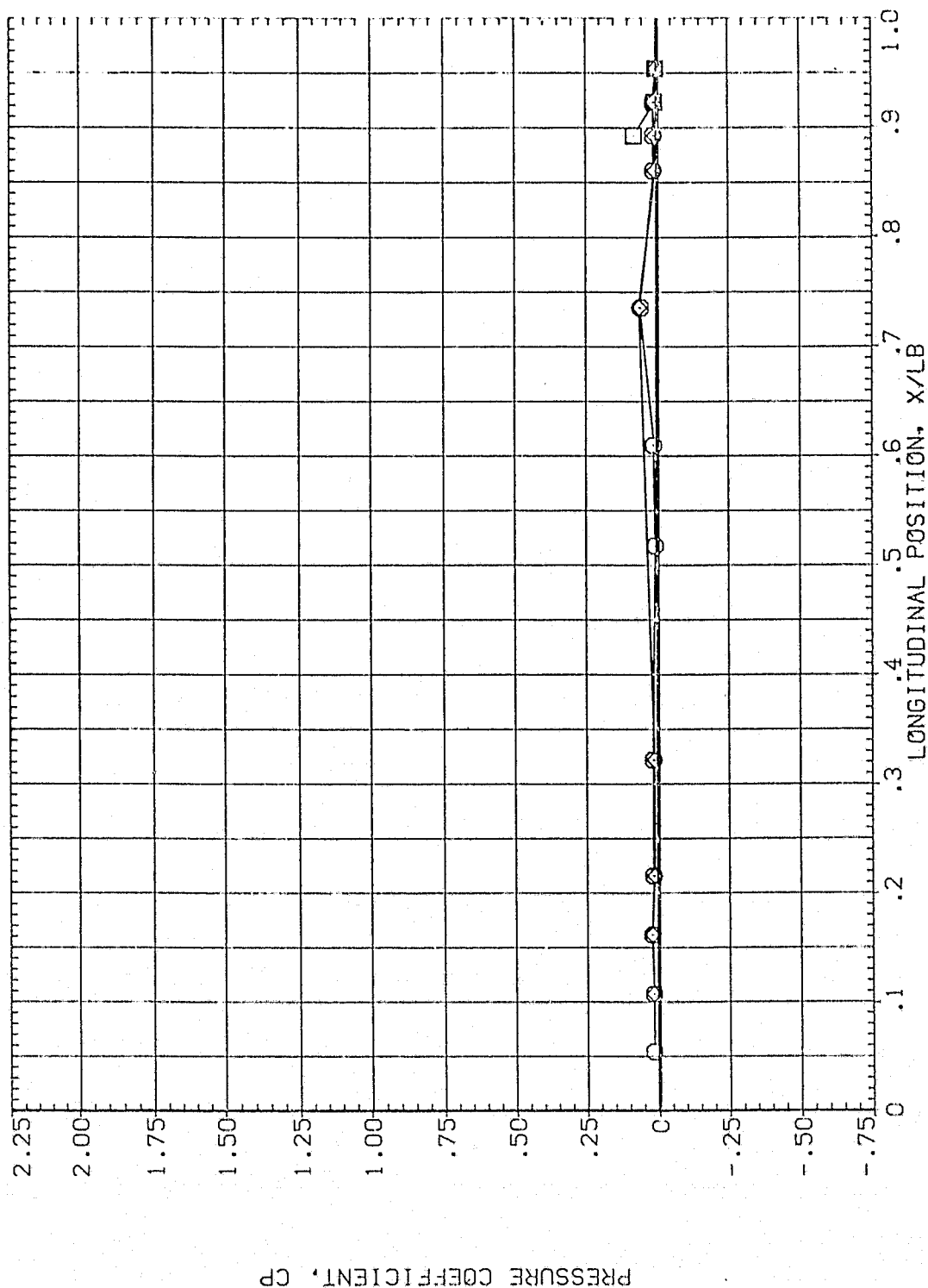


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	.000	94.850	4.960	MOUNT	2.000	PHI
□	14.000					.000
◇	24.000					

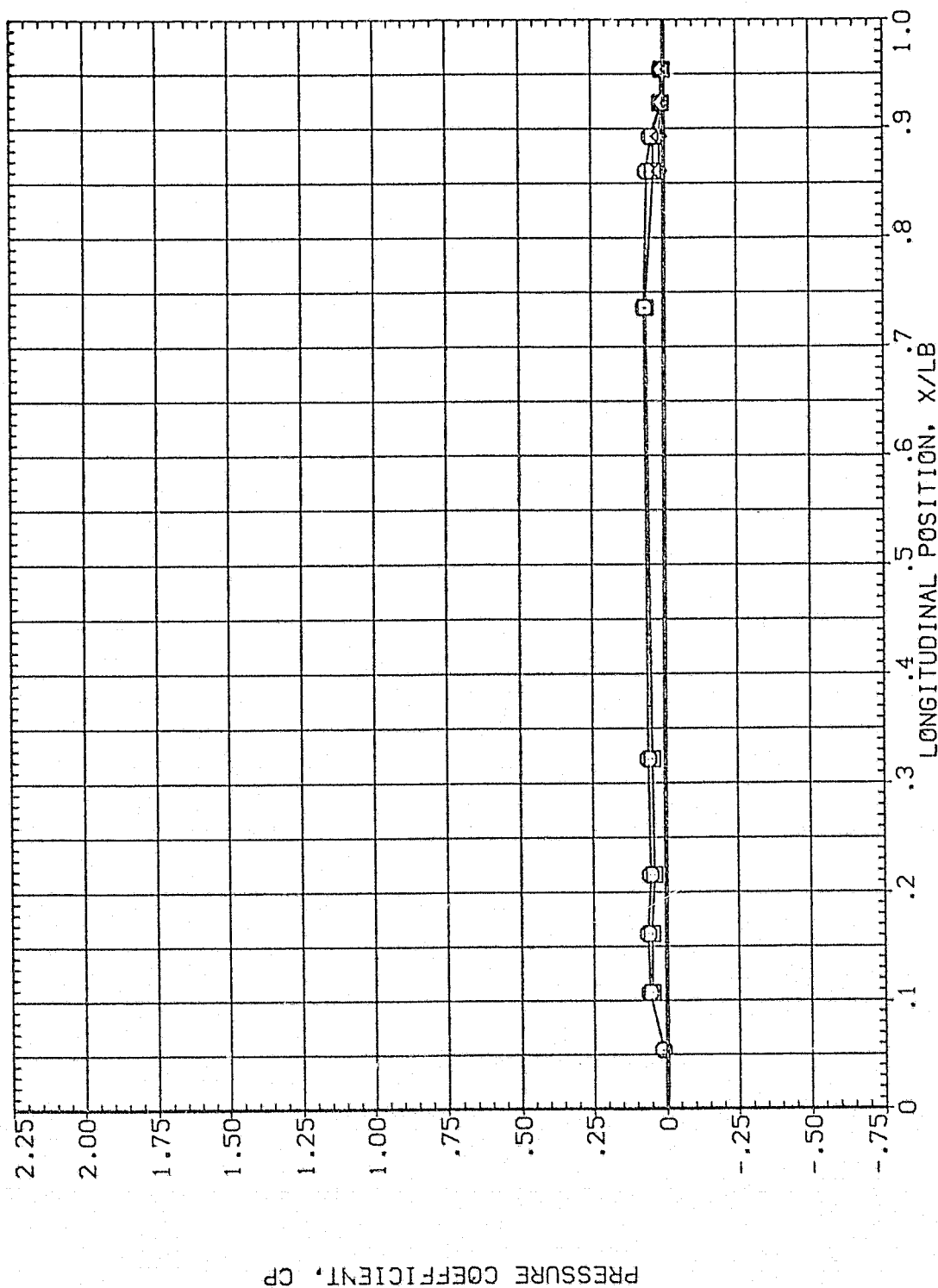


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

(P1A078)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

PARAMETRIC VALUES  
BETA .000  
HOUNT 2.000  
OFFSET .000  
PHI .000

THETA 45.000  
ALPHA 94.850  
MACH 4.960  
67.500  
90.000

SYMBOL  
◇  
□  
○

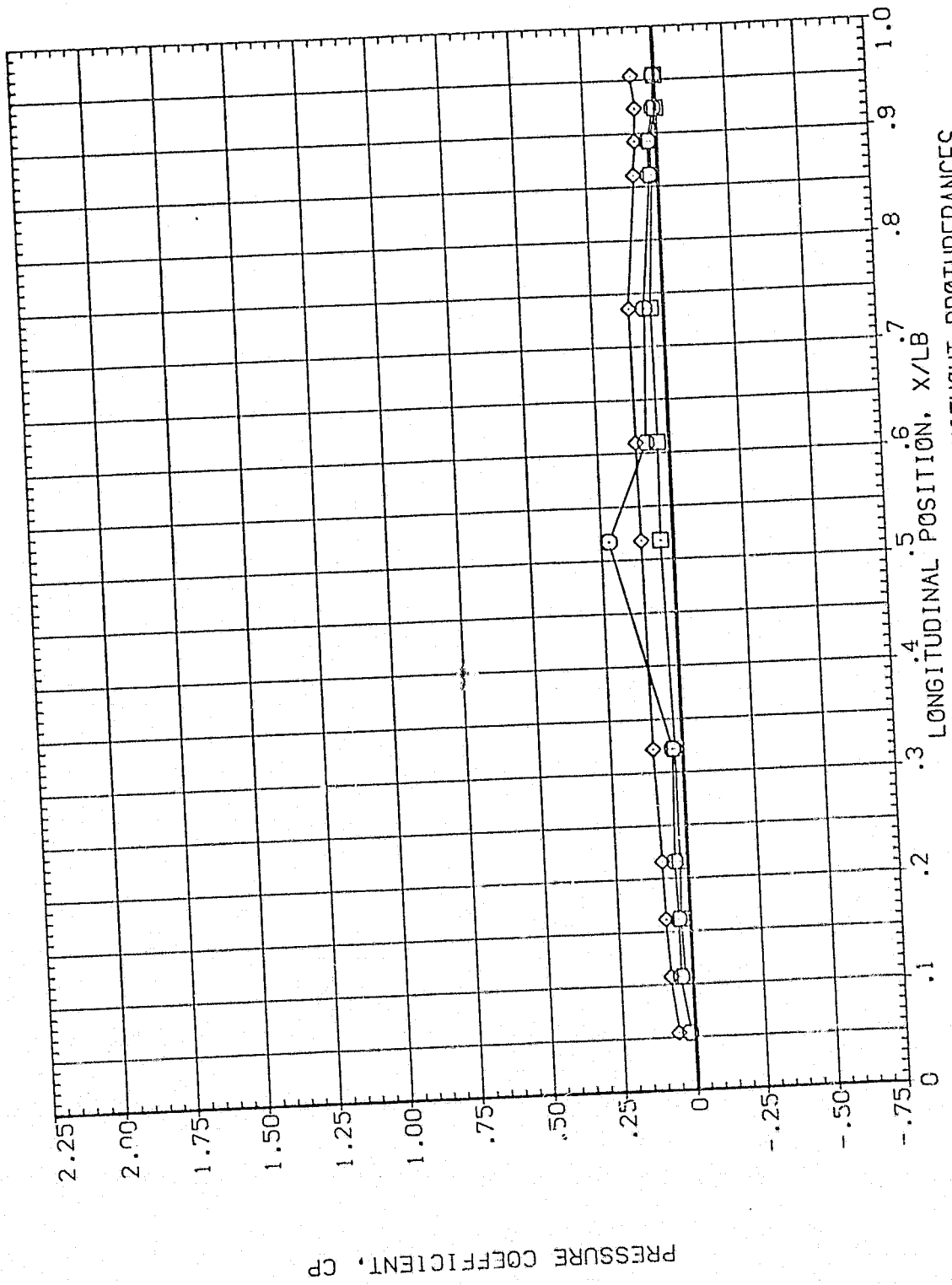


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	THETA		ALPHA		MACH		PARAMETRIC VALUES		
	112.500	135.000	94.850	94.850	4.960	4.960	BETA	.000	OFFSET
○	157.500						HOUNT	2.000	PHI
□									
◇									

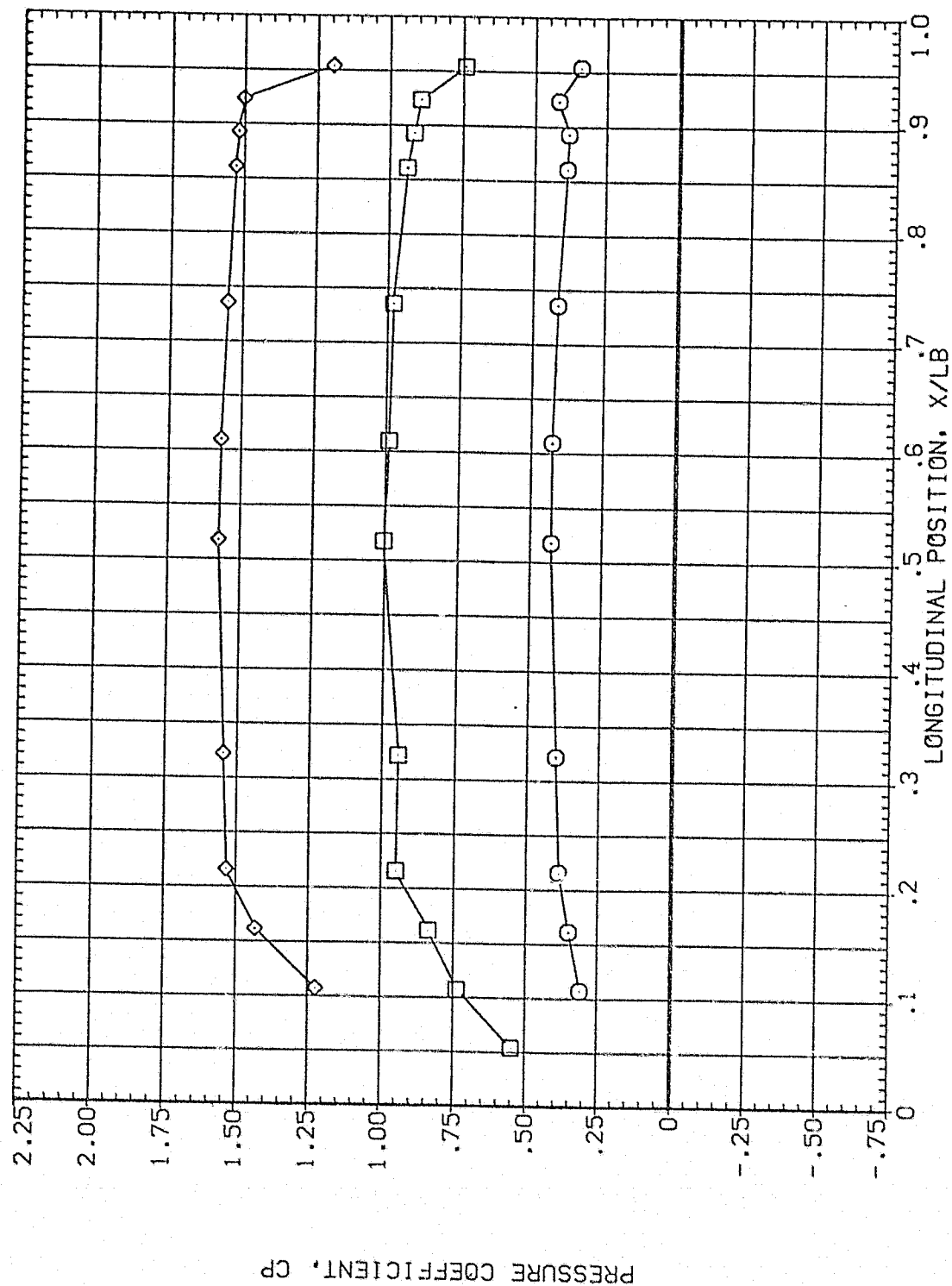


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL  
 ○  
 □  
 ◇

THETA  
 180.000  
 202.500  
 225.000

ALPHA  
 94.250

MACH  
 4.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 2.000

OFFSET  
 PHI

90.000  
 .000

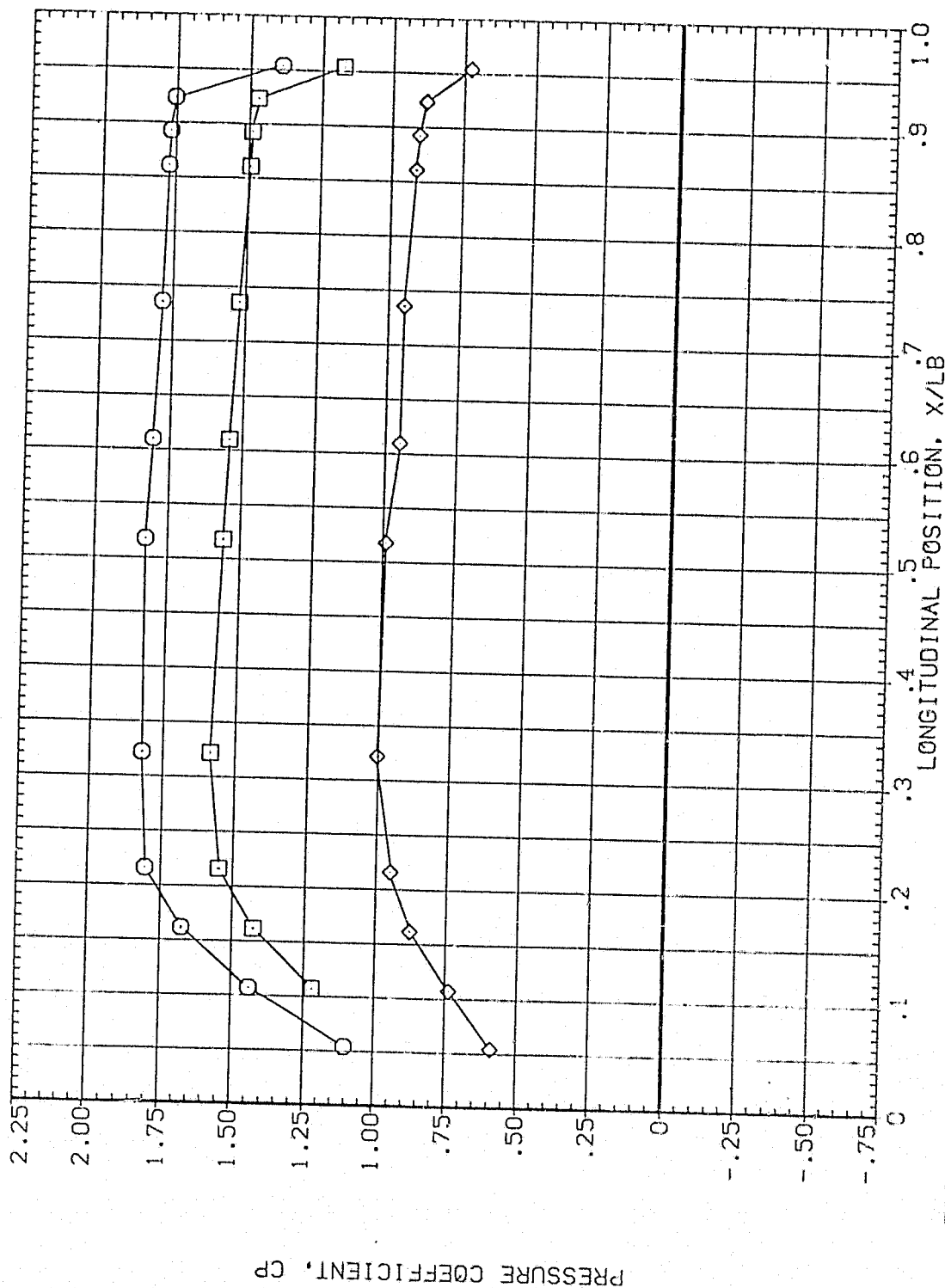


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	247.500	94.850	4.960	MOUNT	PHI	.000
□	270.000					
◇	292.500					

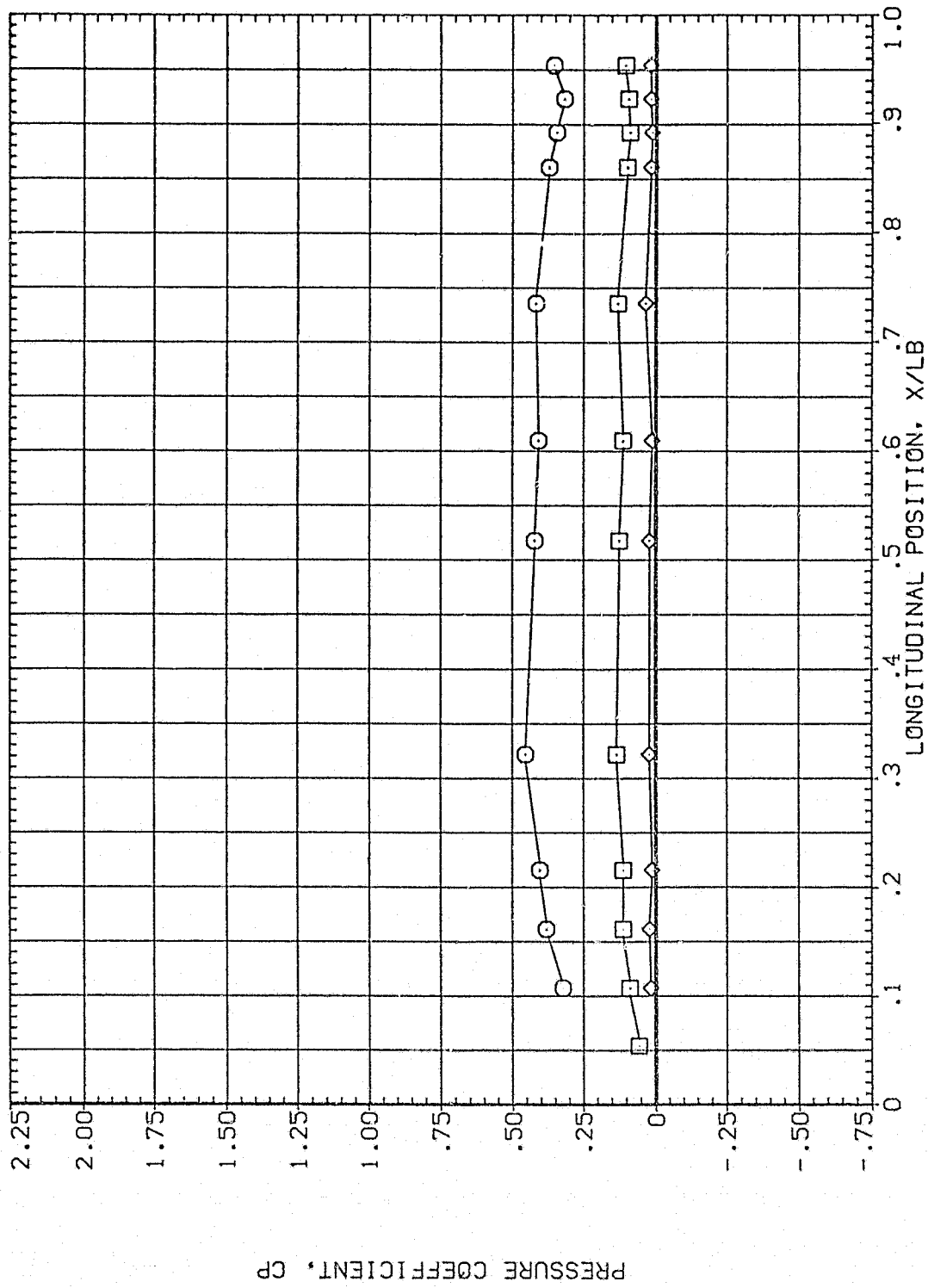


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL

THETA

ALPHA

MACH

315.000

94.850

4.960

○

□

◇

PARAMETRIC VALUES

BETA .000 0°FSET 90.000

MOUNT 2.000 PHI .000

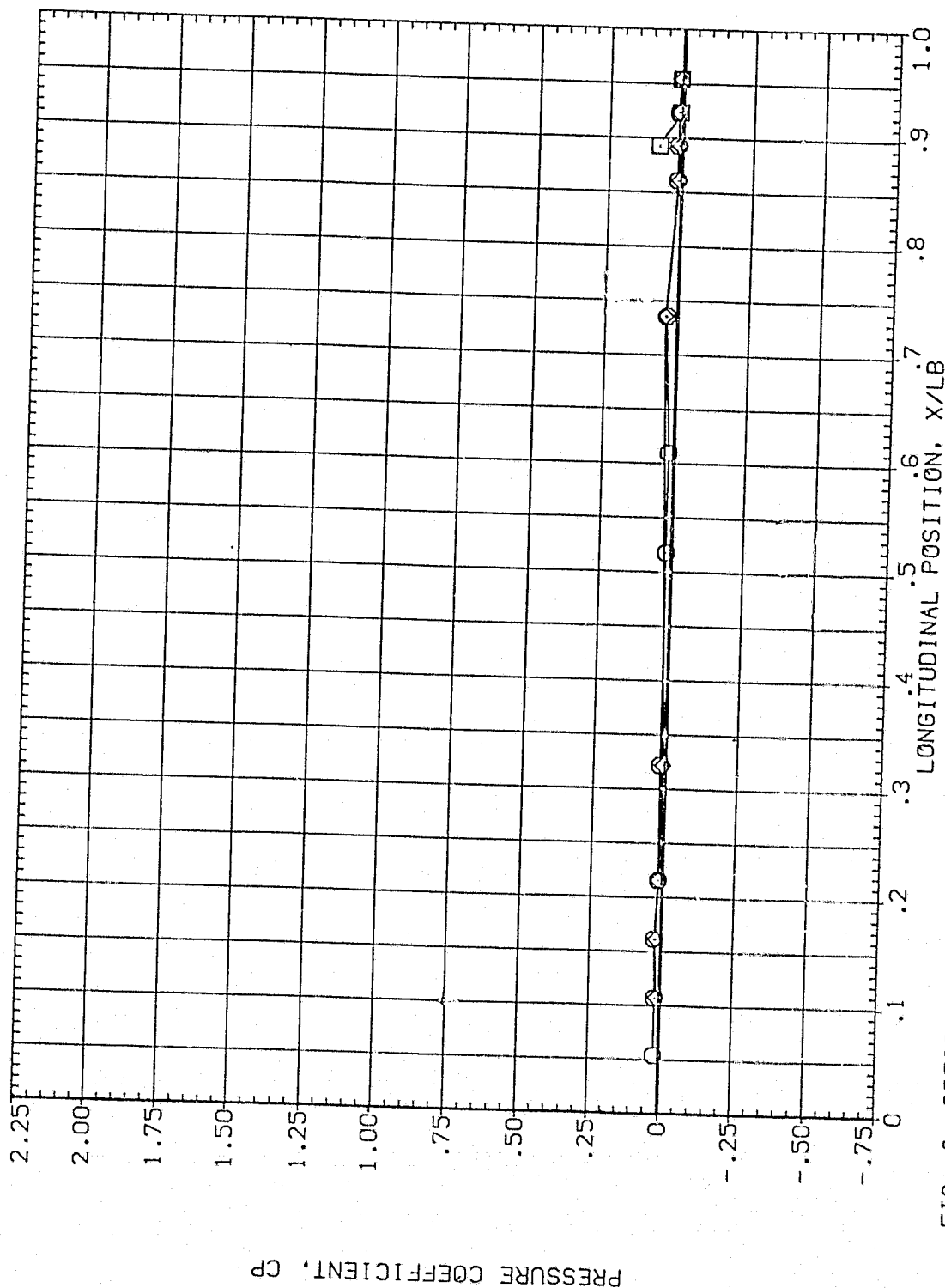


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL  
 ○ □ ◇

THETA .000 14.000 24.000  
 ALPHA 97.830  
 MACH 4.960

PARAMETRIC VALUES  
 BETA .000 2.000 90.000  
 MOUNT OFFSET PHI .000

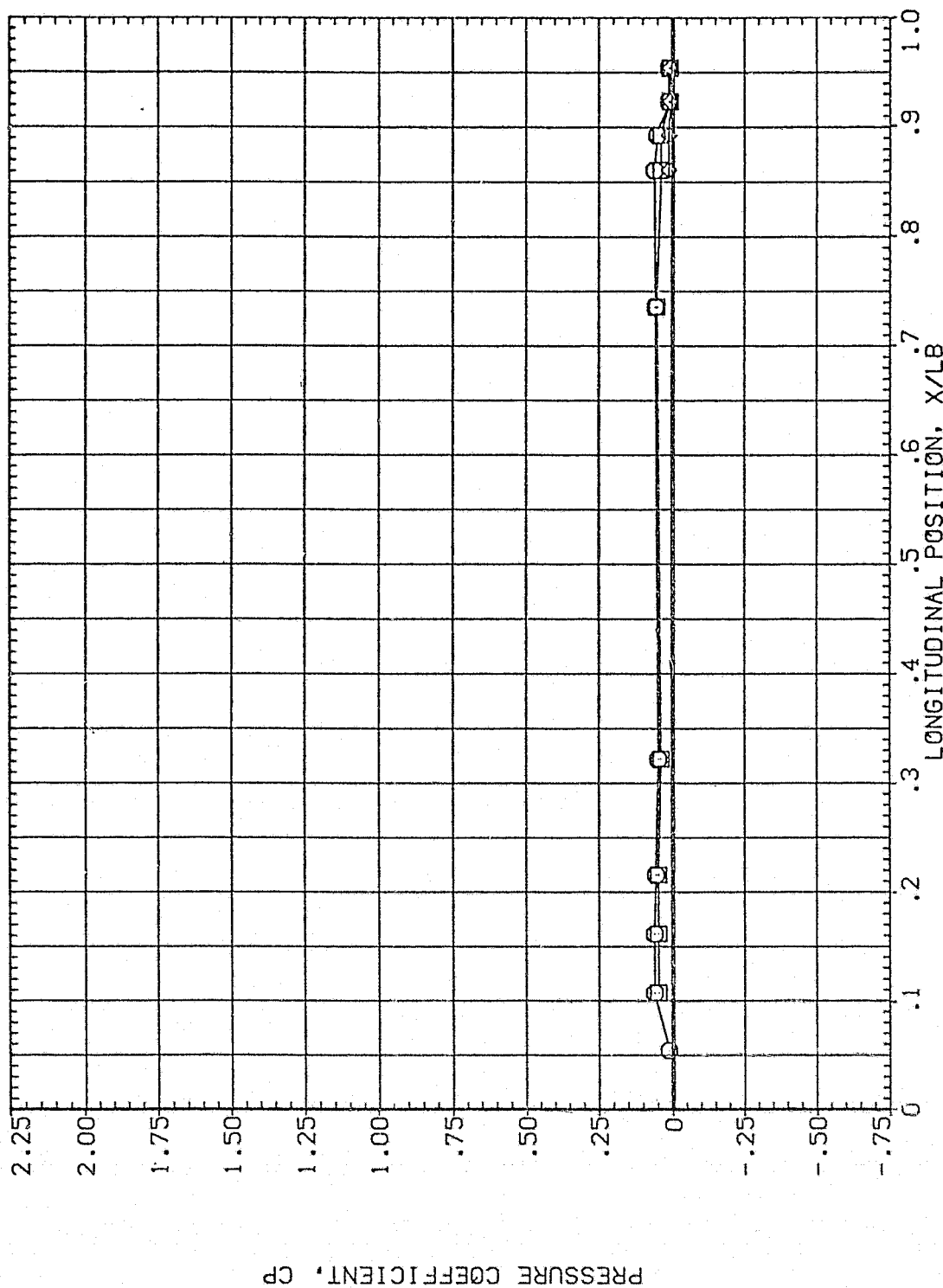


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 PHI 90.000  
 .CCO

THETA 45.000  
 ALPHA 97.830  
 MACH 4.960

SYMBOL  
 45.000  
 67.500  
 90.000

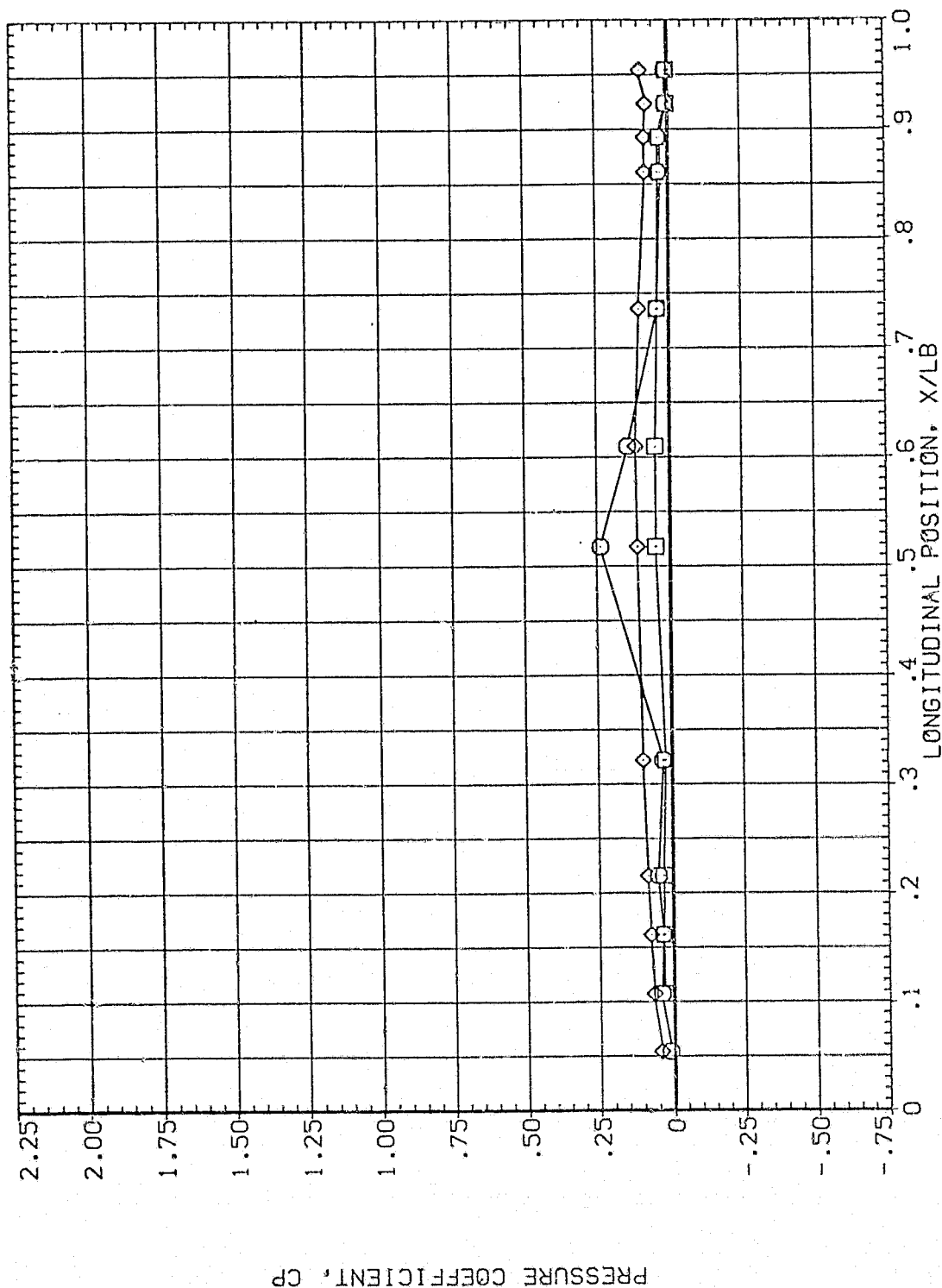


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



SYMBOL    THETA    ALPHA    MACH    MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2    (P1A079)    BETA    MOUNT    PARAMETRIC VALUES    .000    OFFSET    PHI    90.000    .000

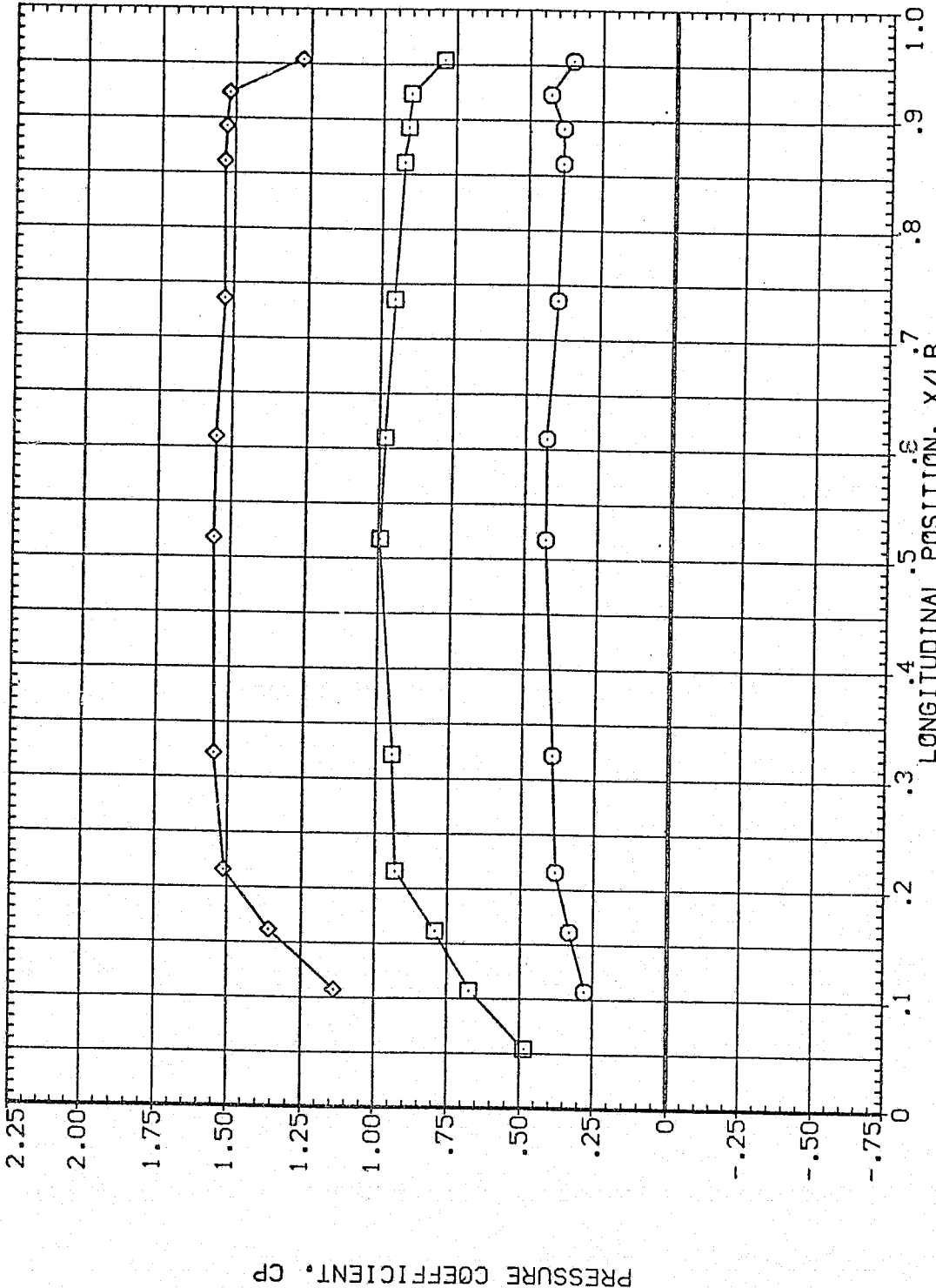


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

(P1A079)

MSFC 5 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
○  
□  
◇

THETA  
180.000  
202.500  
225.000

ALPHA  
97.830

MACH  
4.960

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
90.000  
OFFSET  
PHI  
.000

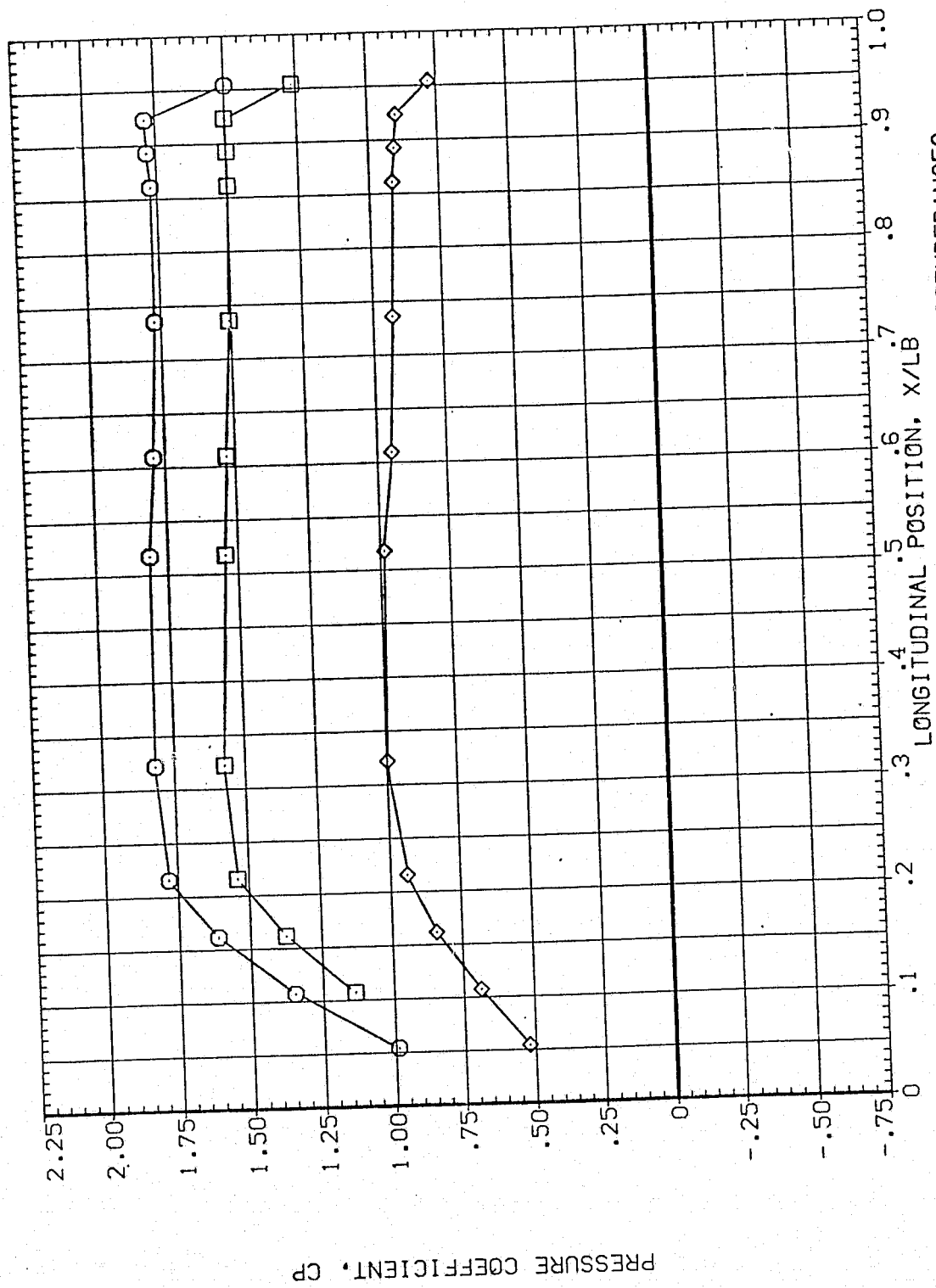


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL

○ □ ◇

THETA

247.500  
270.000  
292.500

ALPHA

97.830

MACH

4.960

BETA

MOUNT

PARAMETRIC VALUES

.000 .000 .000  
2.000 2.000 2.000  
PHI

90.000  
.000

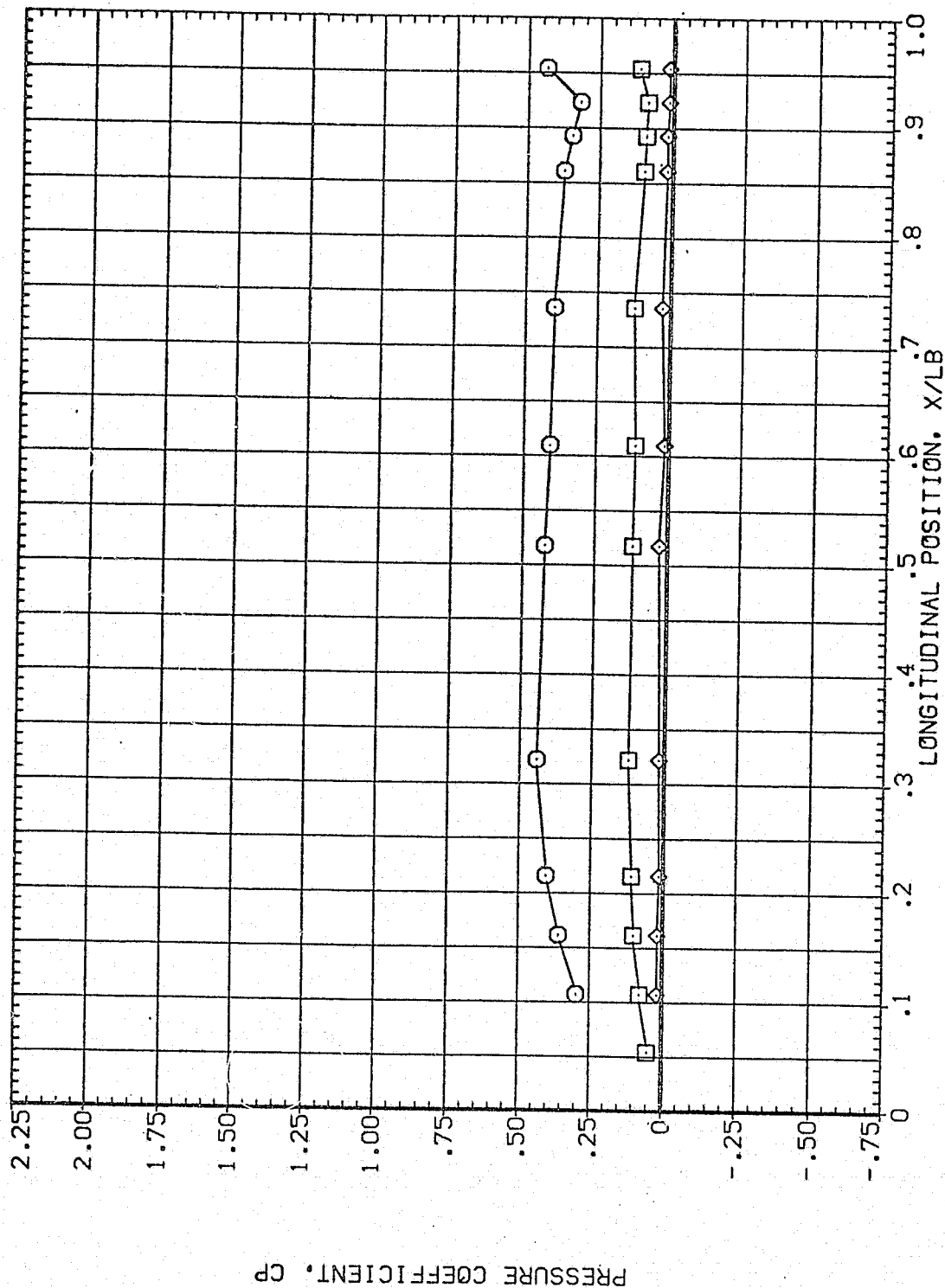


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

(P1A079)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2.

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
OFFSET PHI .000  
90.000

SYMBOL THETA ALPHA MACH  
315.000 97.830 4.960  
326.000  
346.000

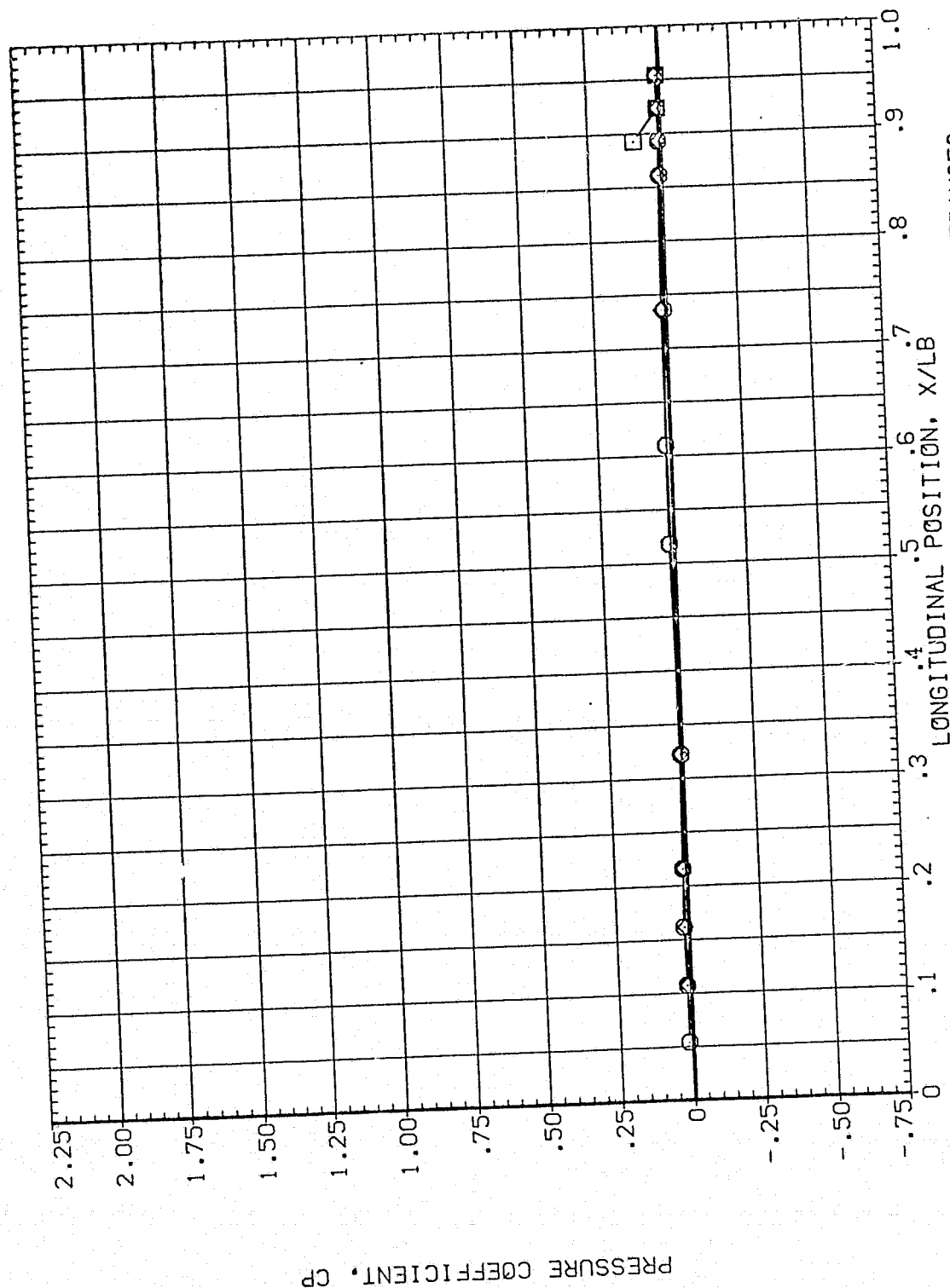


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.000	99.750	4.960	MOUNT	.000
□	14.000			OFFSET	2.000
◇	24.000			PHI	90.000

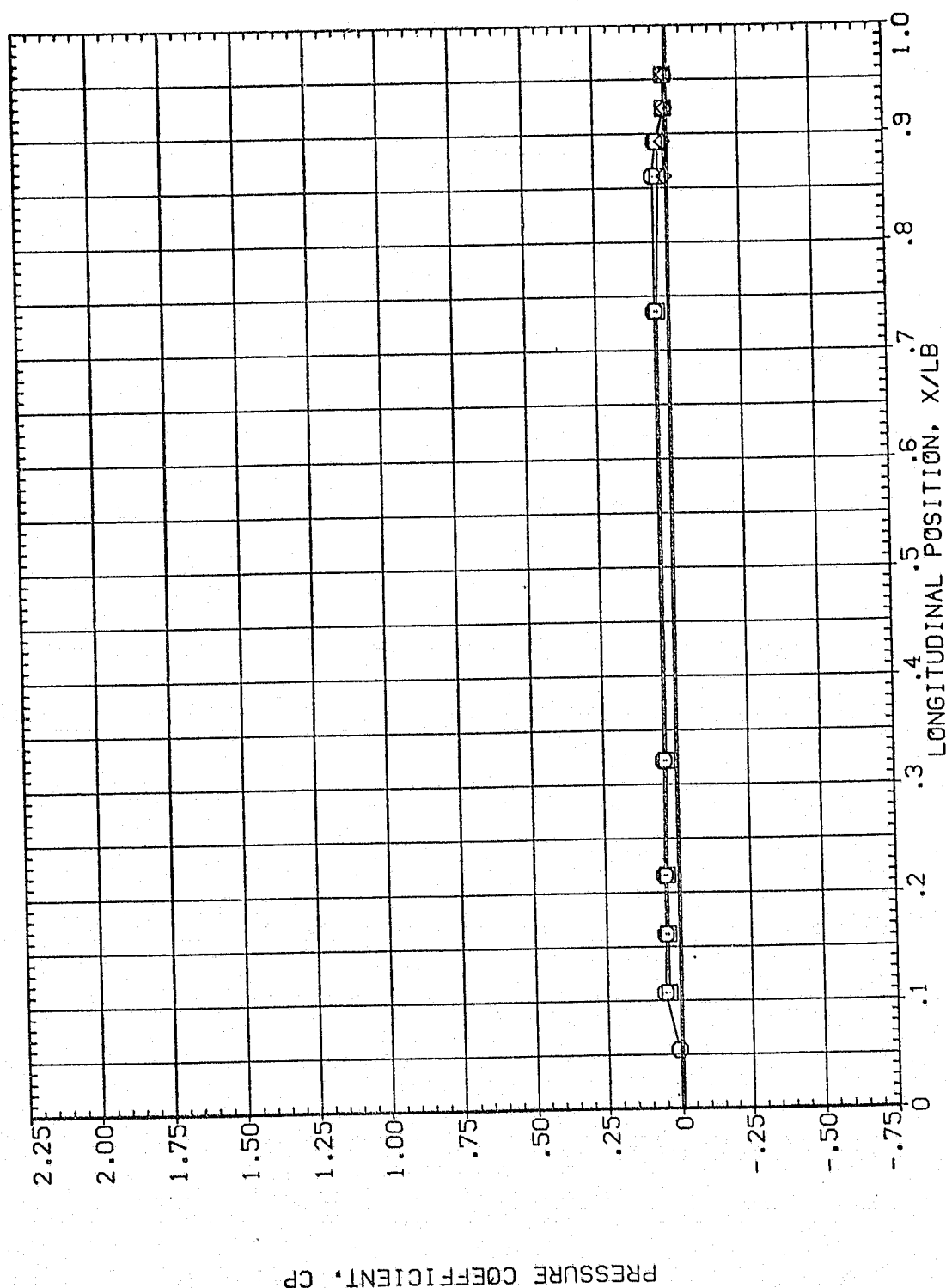


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	45.000	99.750	4.960	0.000	OFFSET
□	67.500			2.000	PHI
◇	90.000			90.000	

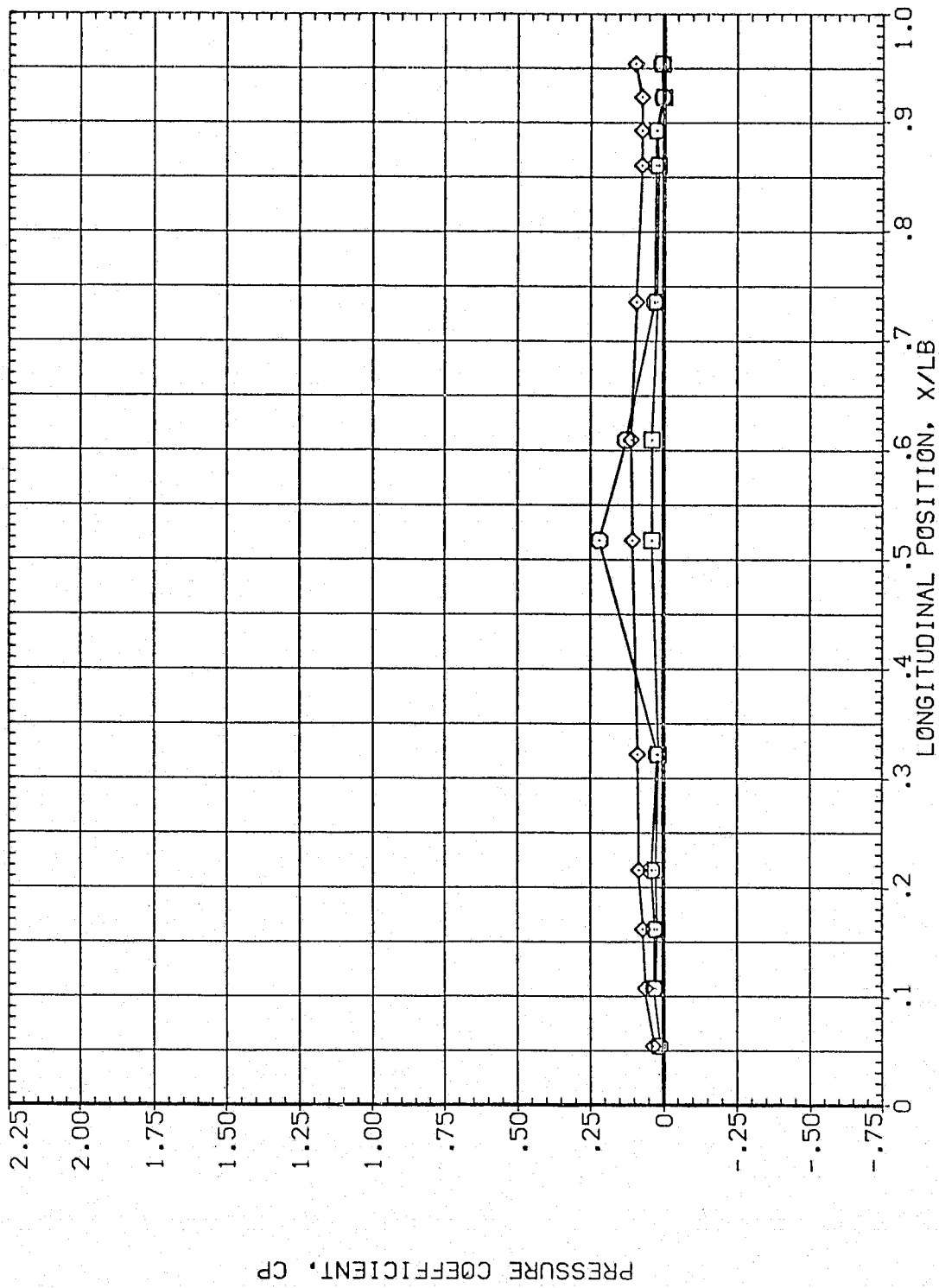


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	THETA	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	112.500	99.750	4.960	MOUNT	.000	.000
□	135.000				2.000	
◇	157.500					

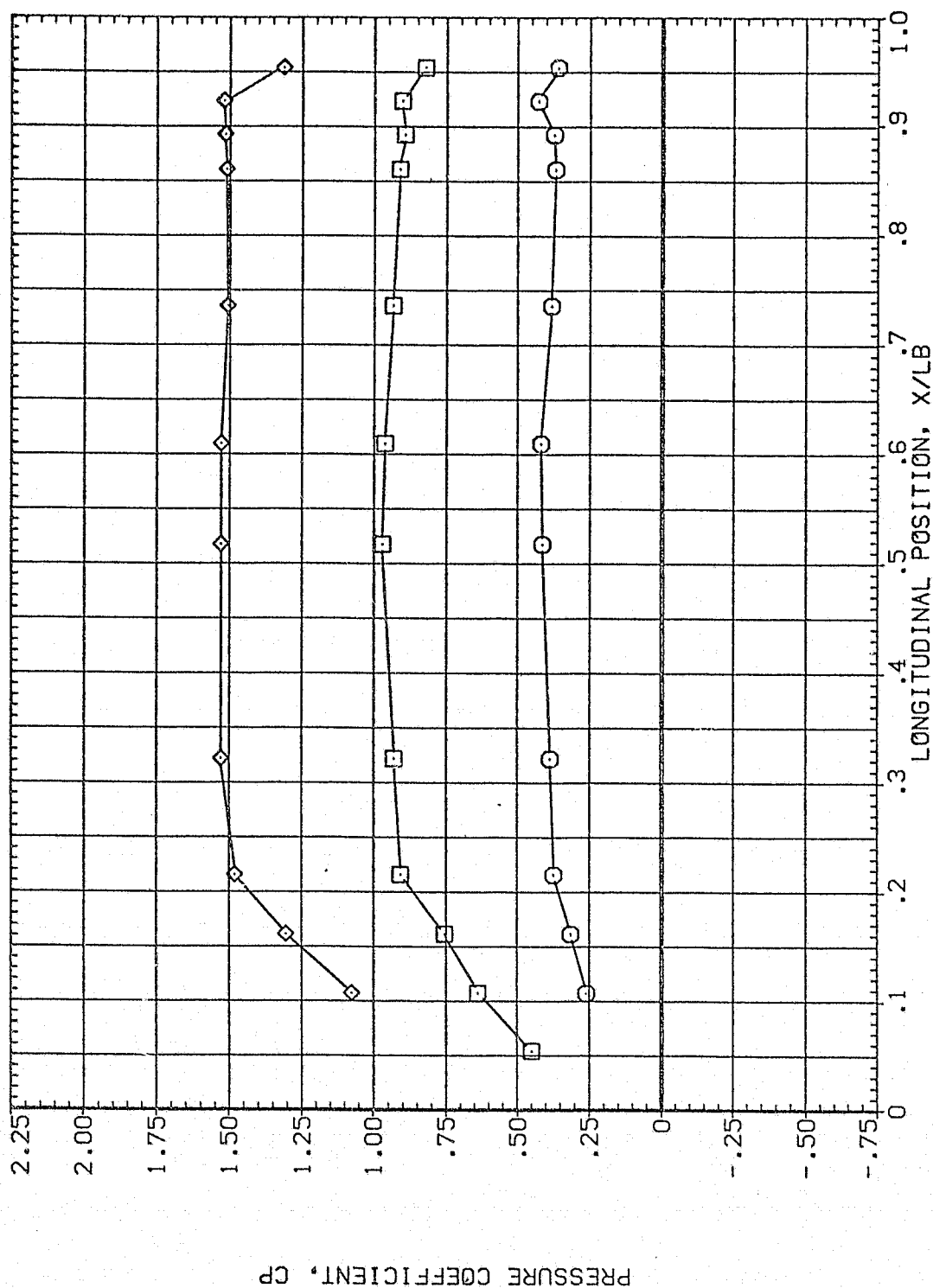


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

SYMBOL	THETA	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	180.000	99.750	4.960	MOUNT	.000 OFFSET
□	202.500				2.000 PHI
◇	225.000				

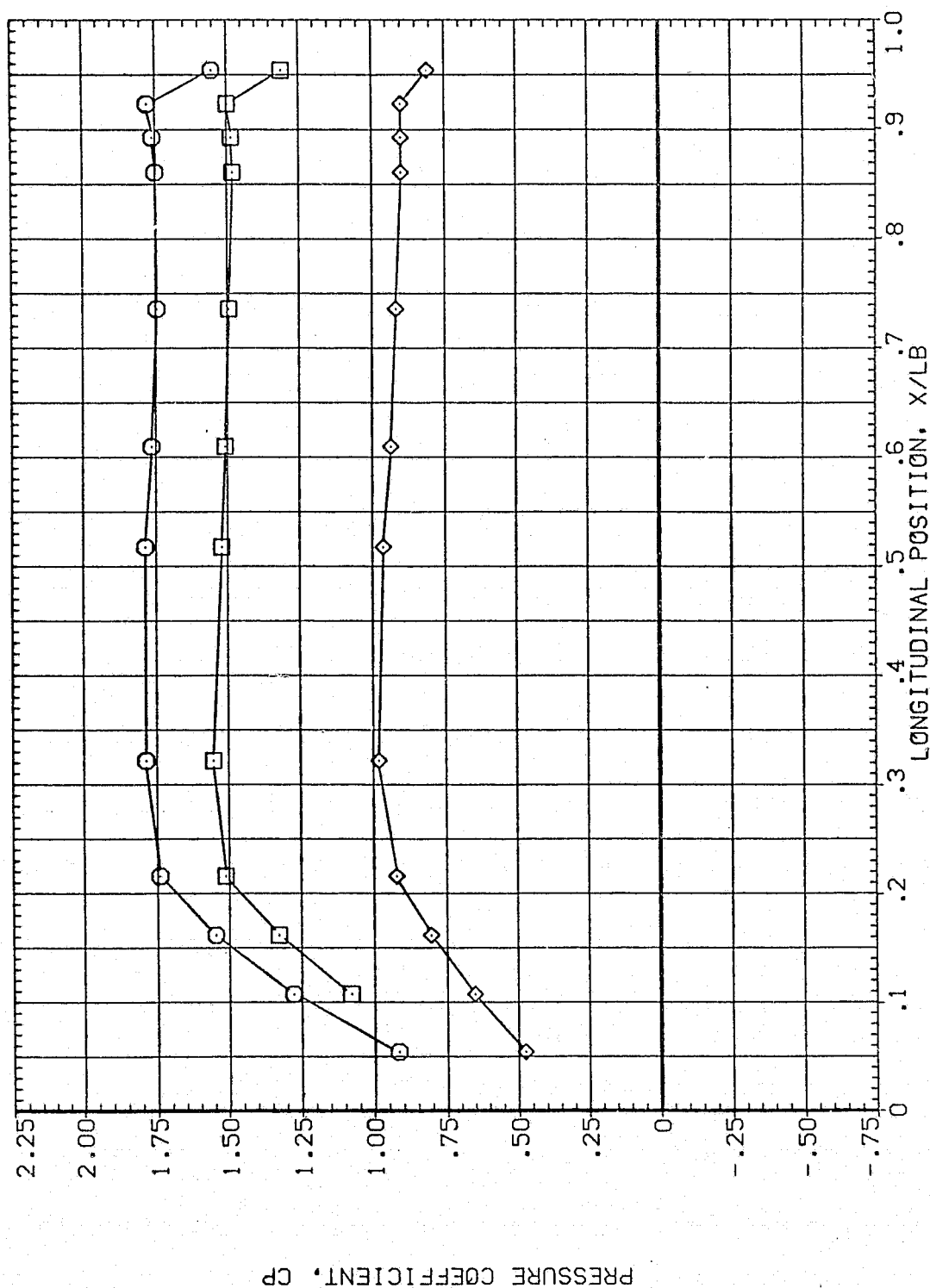


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	THETA		ALPHA		MACH		BETA		PARAMETRIC VALUES		
	247.500	270.000	99.750	99.750	4.960	4.960	MOUNT	MOUNT	.000	2.000	90.000
○									OFFSET	PHI	
□											
◇											

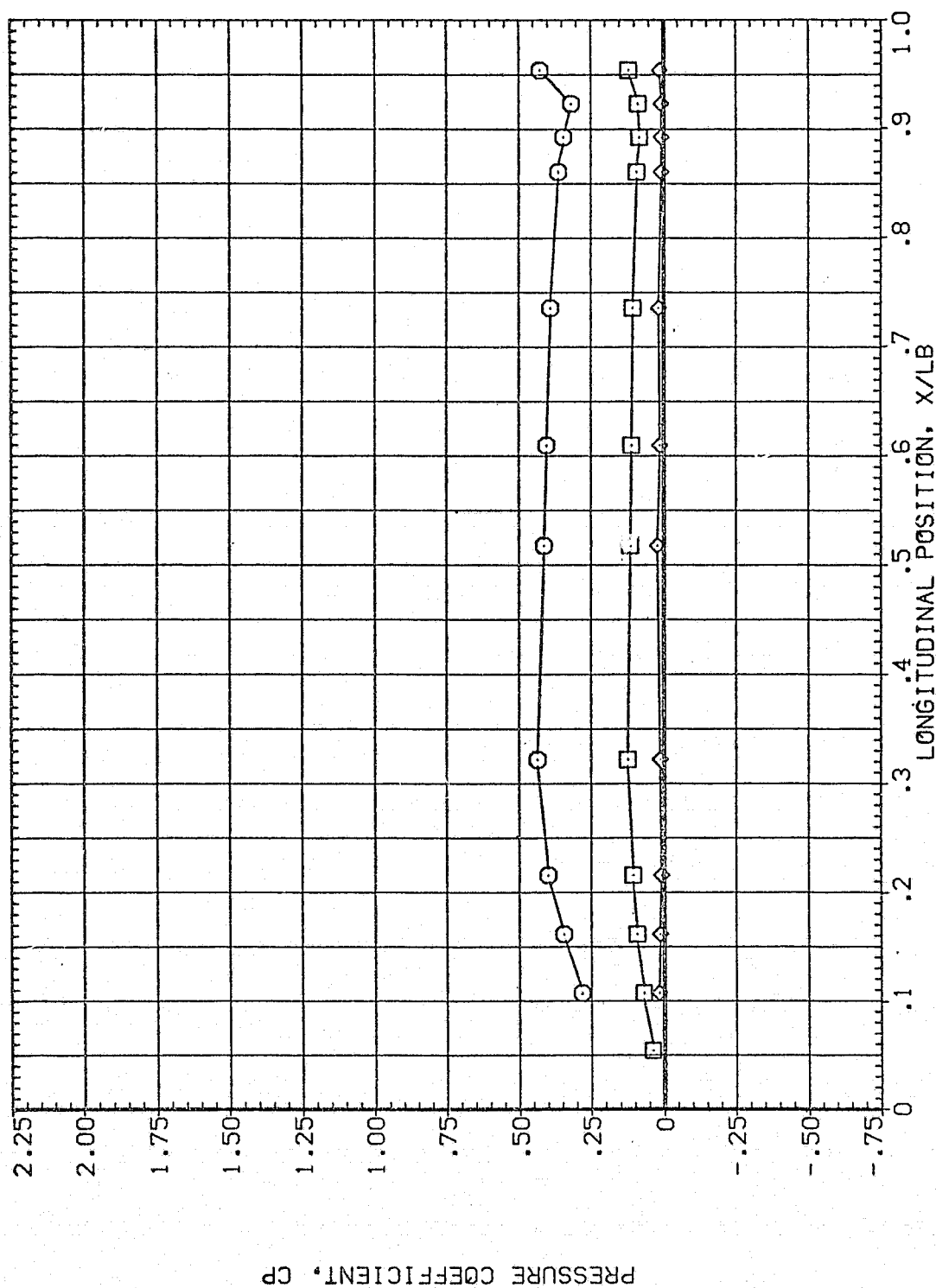


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
 .000 OFFSET 90.000  
 2.000 PHI .000

SYMBOL THETA ALPHA MACH  
 315.000 99.750 4.960  
 326.000  
 346.000

BETA  
 MOUNT

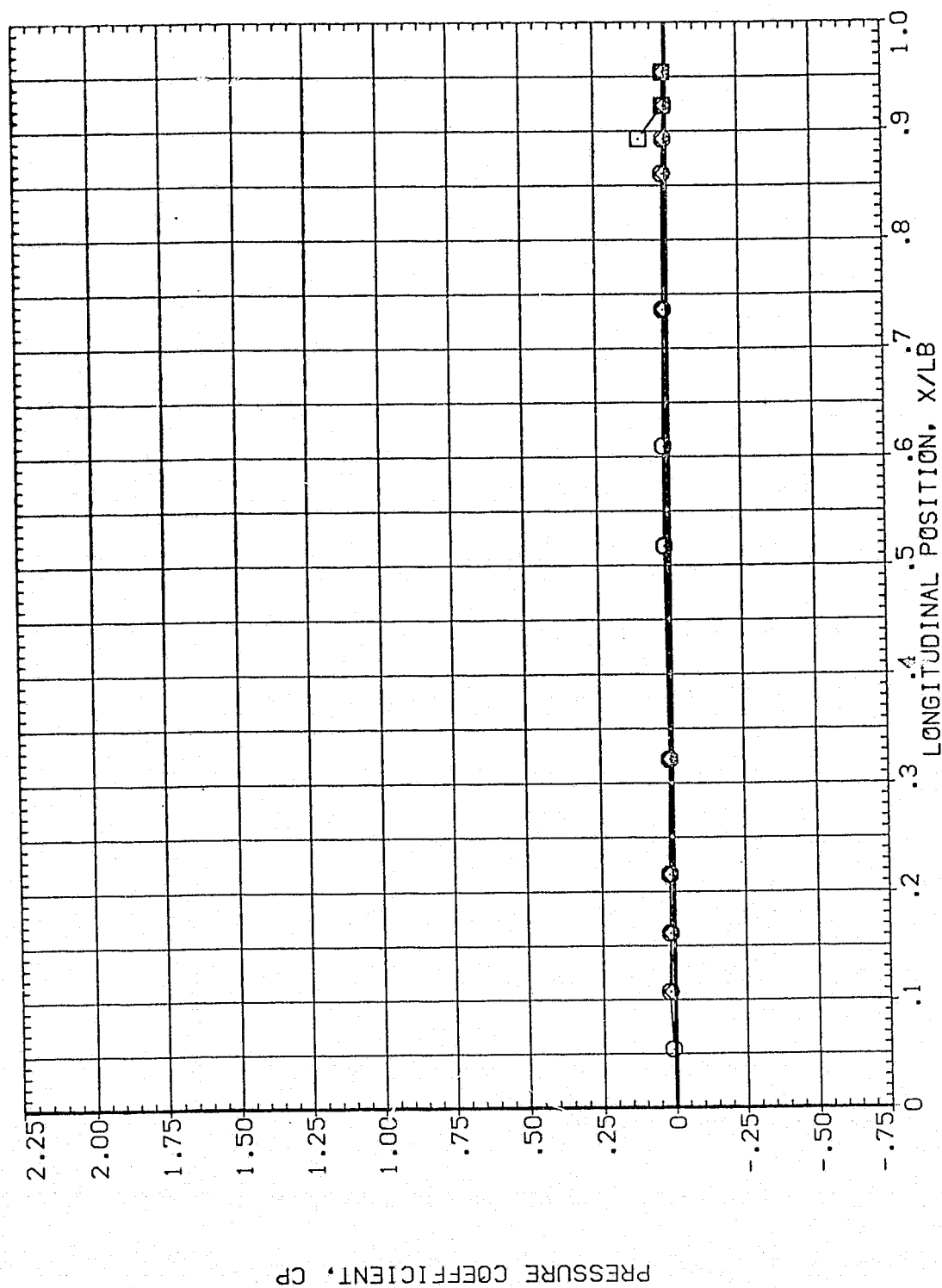


FIG. 8 PRESSURE DISTRIBUTION OVER ET - T2 MODEL WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	51.110	1.960	.000	.000	.000
□	.108			2.000		
◇	.162					

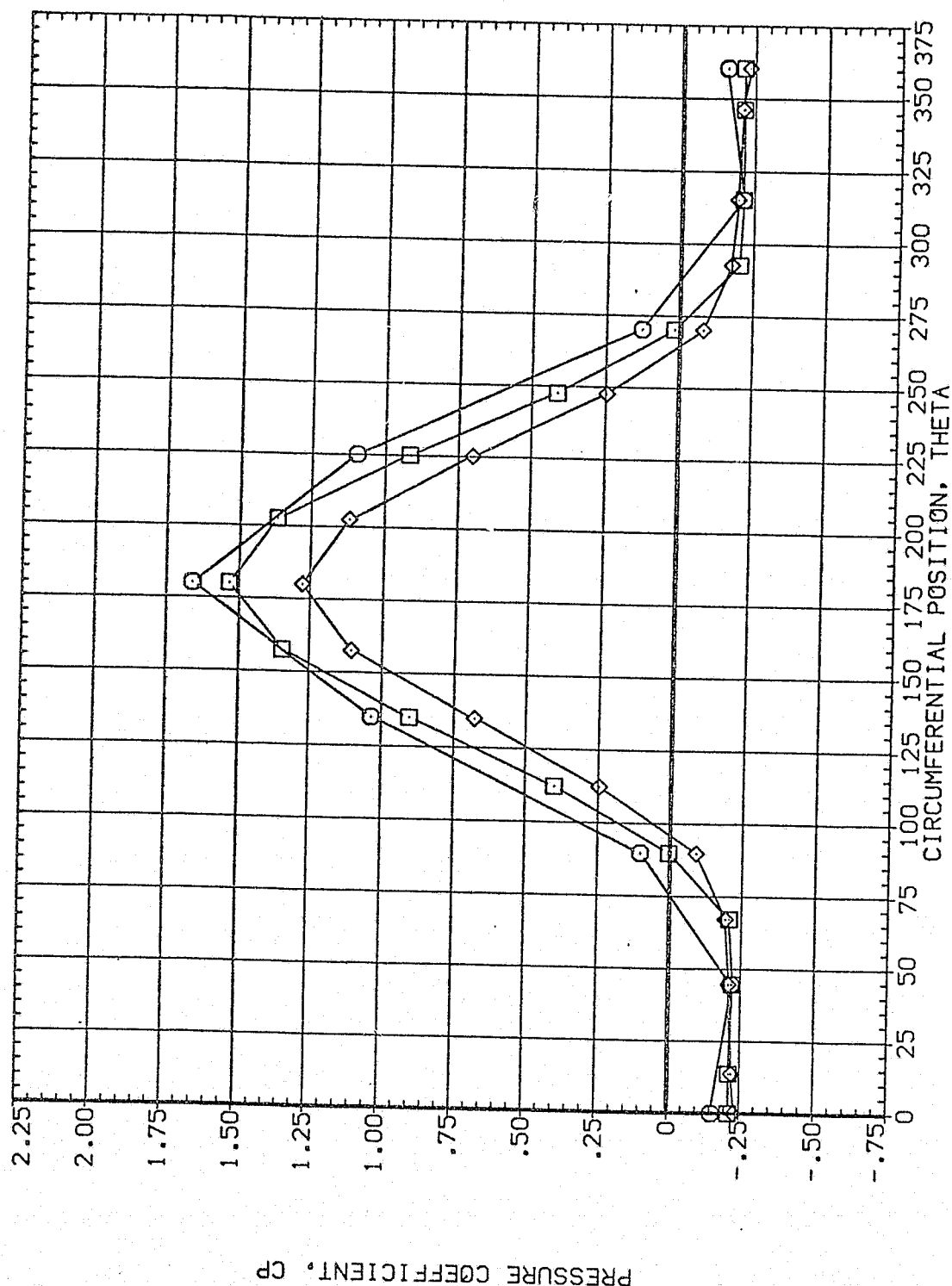


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2441

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.216	51.110	1.960	MOUNT	.000	.000
□	.322					
◇	.518					

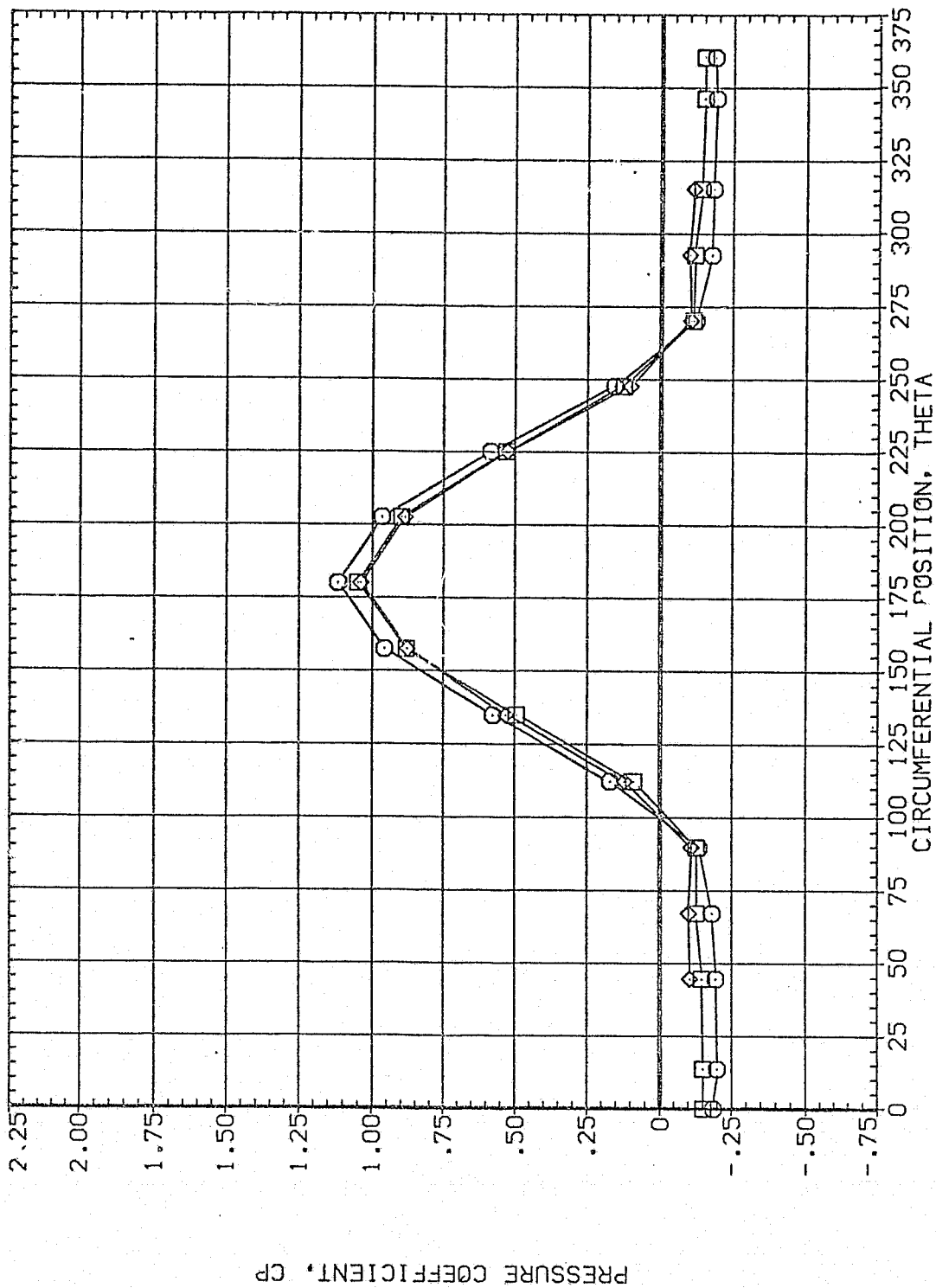


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	51.110	1.960	MOUNT	.000	.000
□	.735				2.000	
◇	.860					

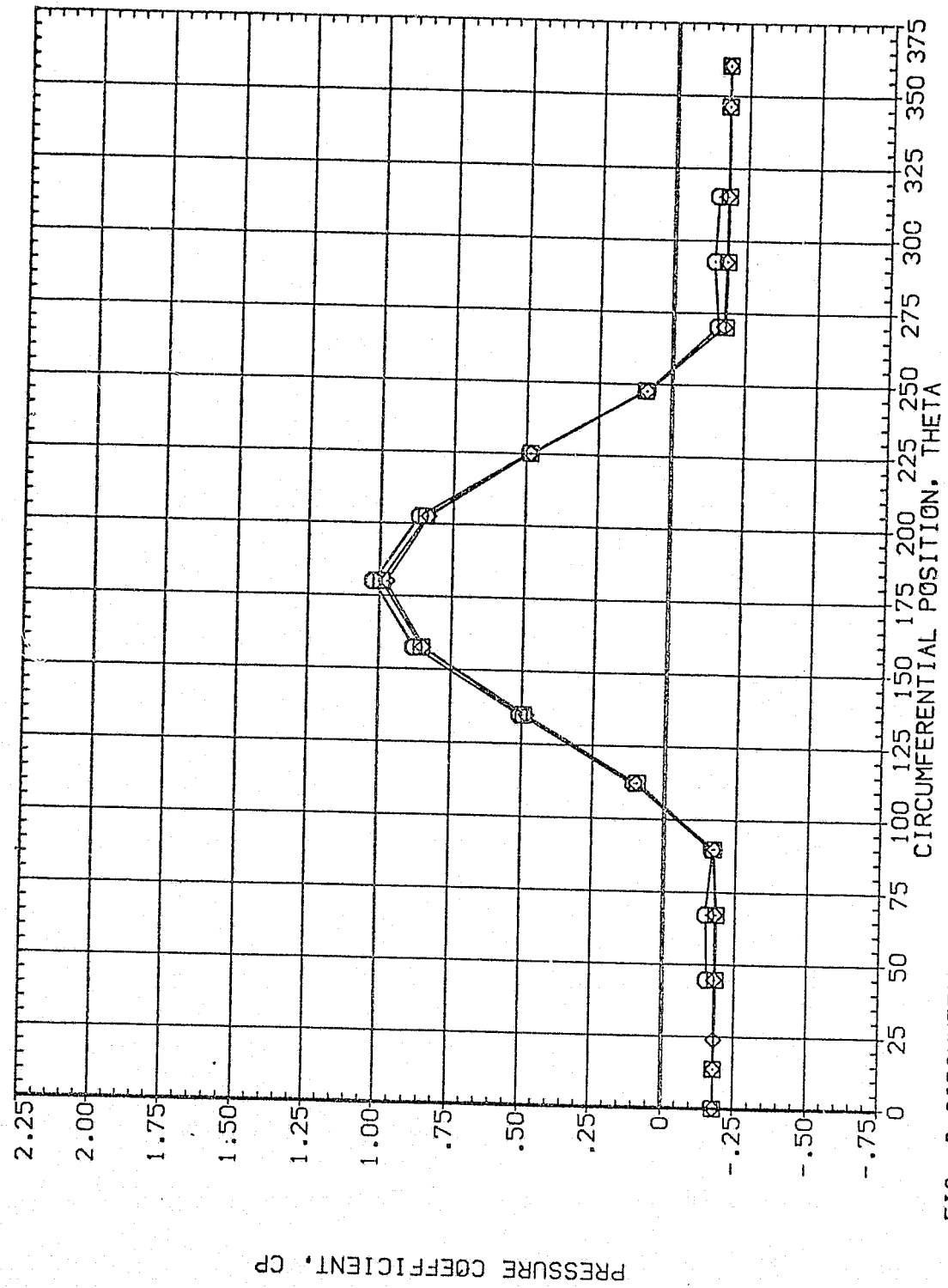


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	.892	51.110	1.960	MOUNT	.000 OFFSET
◇	.923				2.000 PHI
	.954				60.000

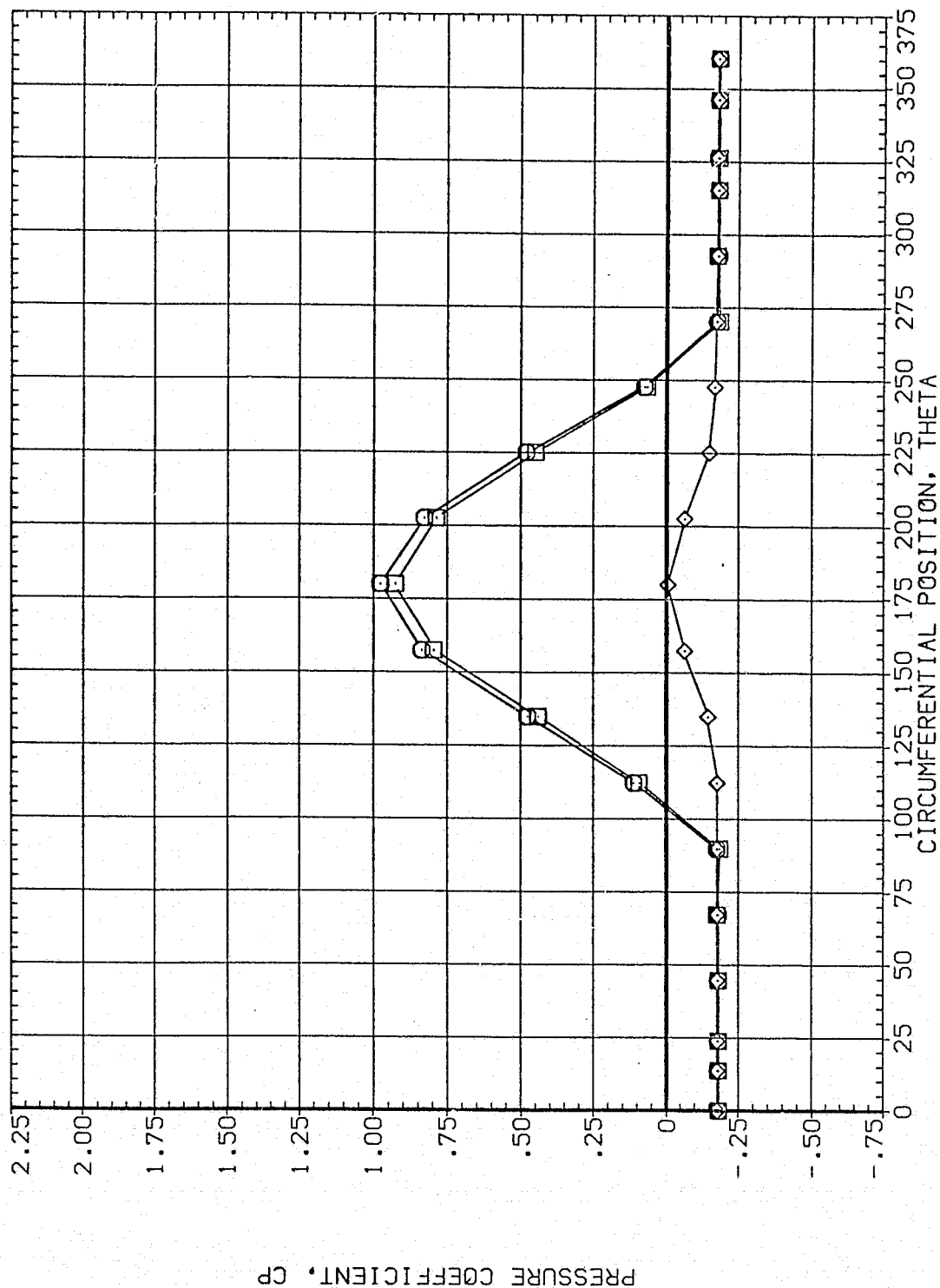


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	60.000
○	.055	54.110	1.960	MOUNT	2.000	.000
□	.108					
◇	.162					

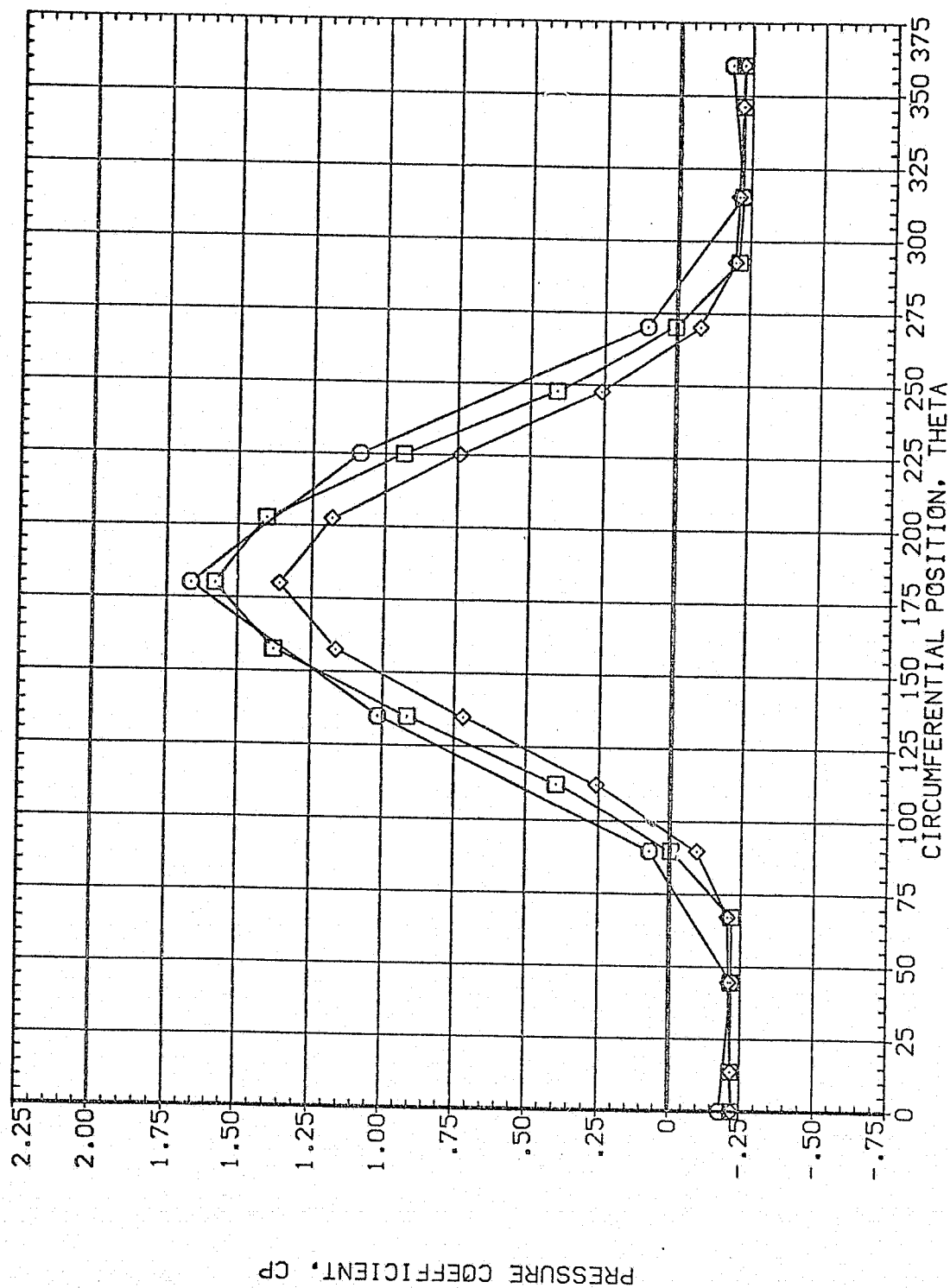


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK- T2 (P1A062)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.216	54.110	1.960	.000	.000	.000
□	.322			2.000		
◇	.518					

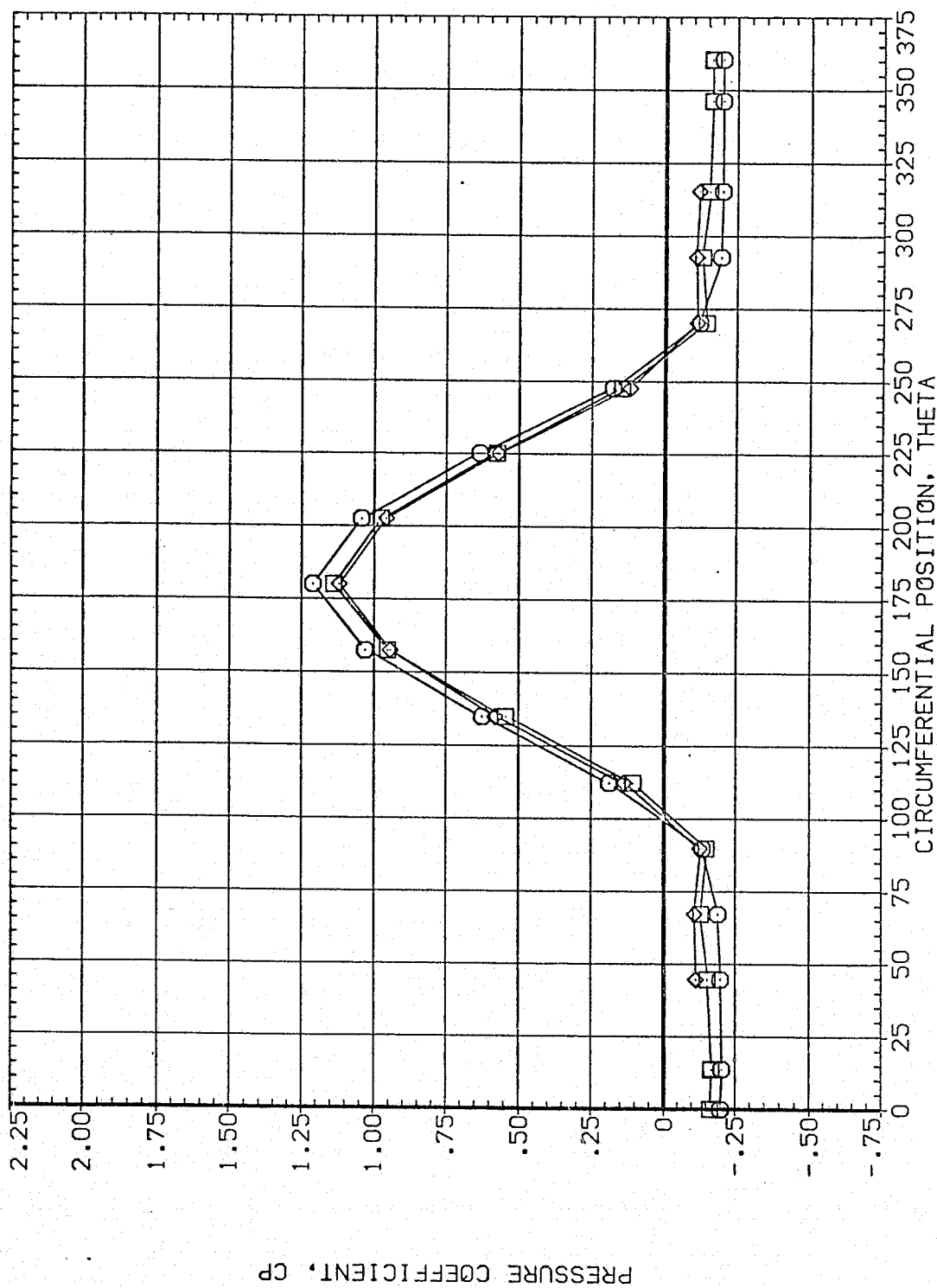


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL  
 ○ □ ◇

X/LB ALPHA MACH  
 .610 54.110 1.960  
 .735  
 .860

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 60.000  
 .000

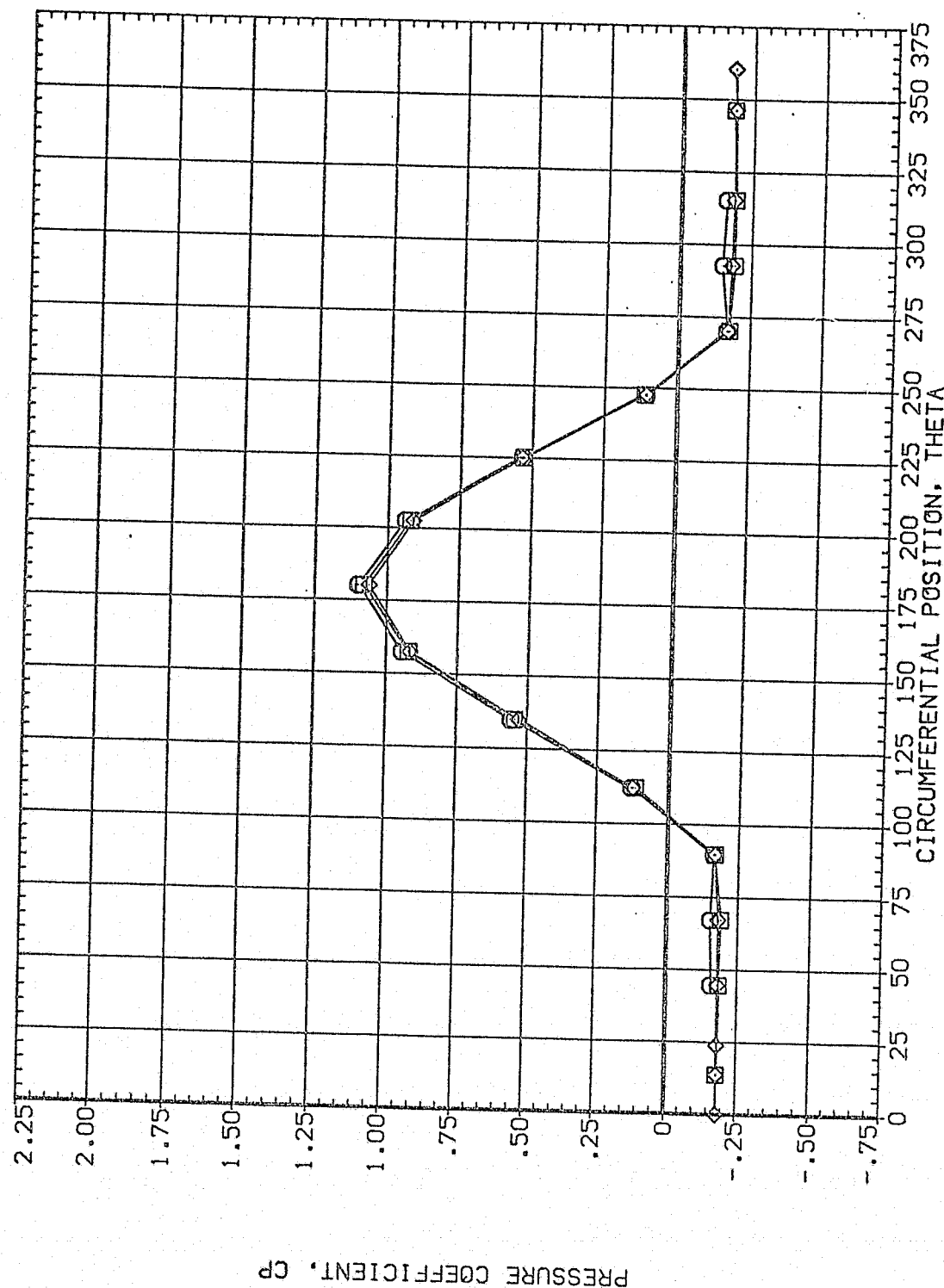


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL X/LB ALPHA MACH

.892 54.110 1.960  
.923  
.954

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
OFFSET PHI 60.000  
.000

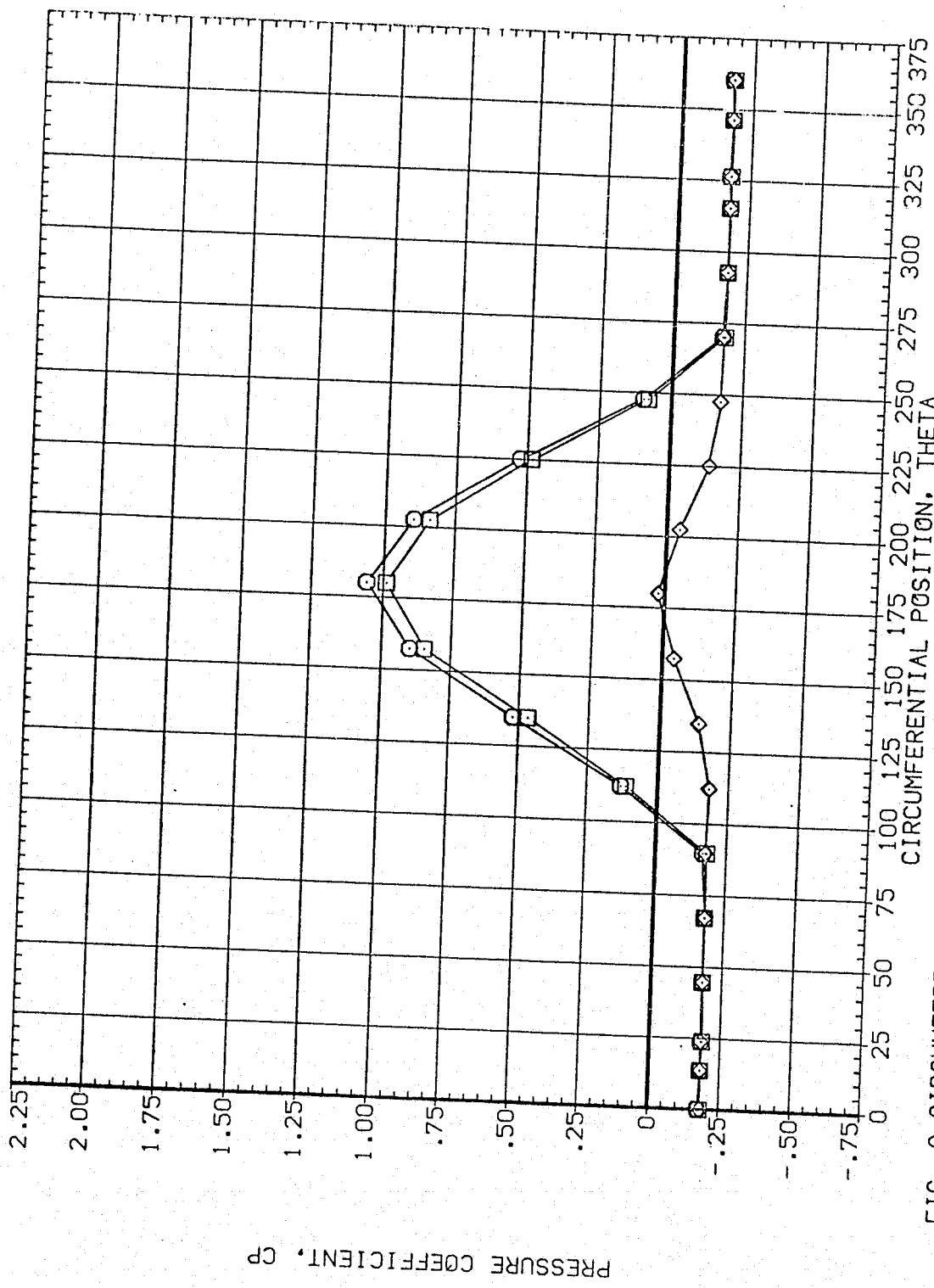


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (7A-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL X/LB ALPHA INCH

57.110 1.980

.055 .028 .02

PARAMETRIC VALUES  
BETA HOUNT  
2.000 2.000  
OFFSET PHI  
.000 .000

60.000

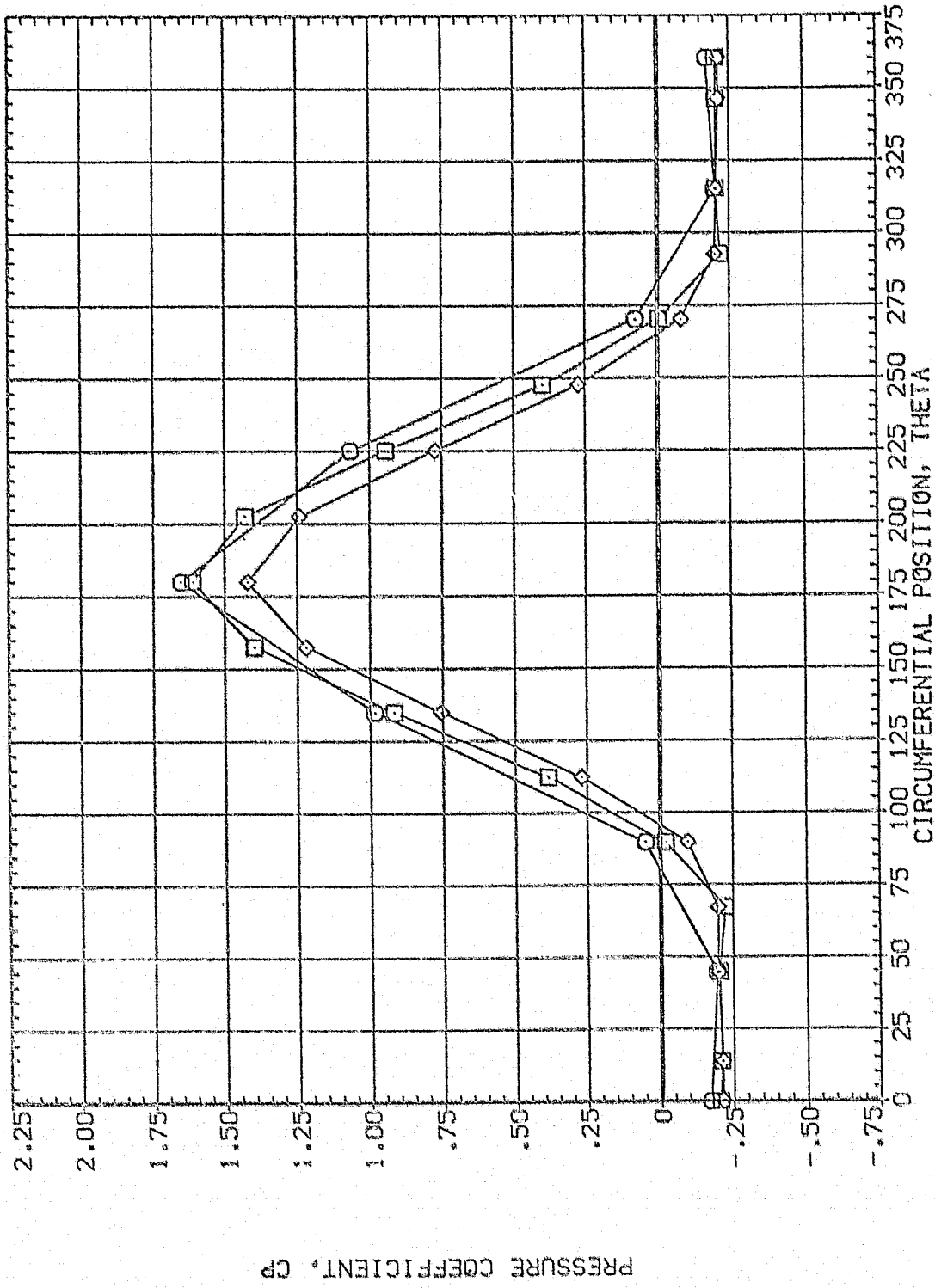


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL X/LB ALPHA MACH  
 □ .216 57.110 1.960  
 ◇ .322  
 ◇ .518

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 PHI 60.000  
 .000

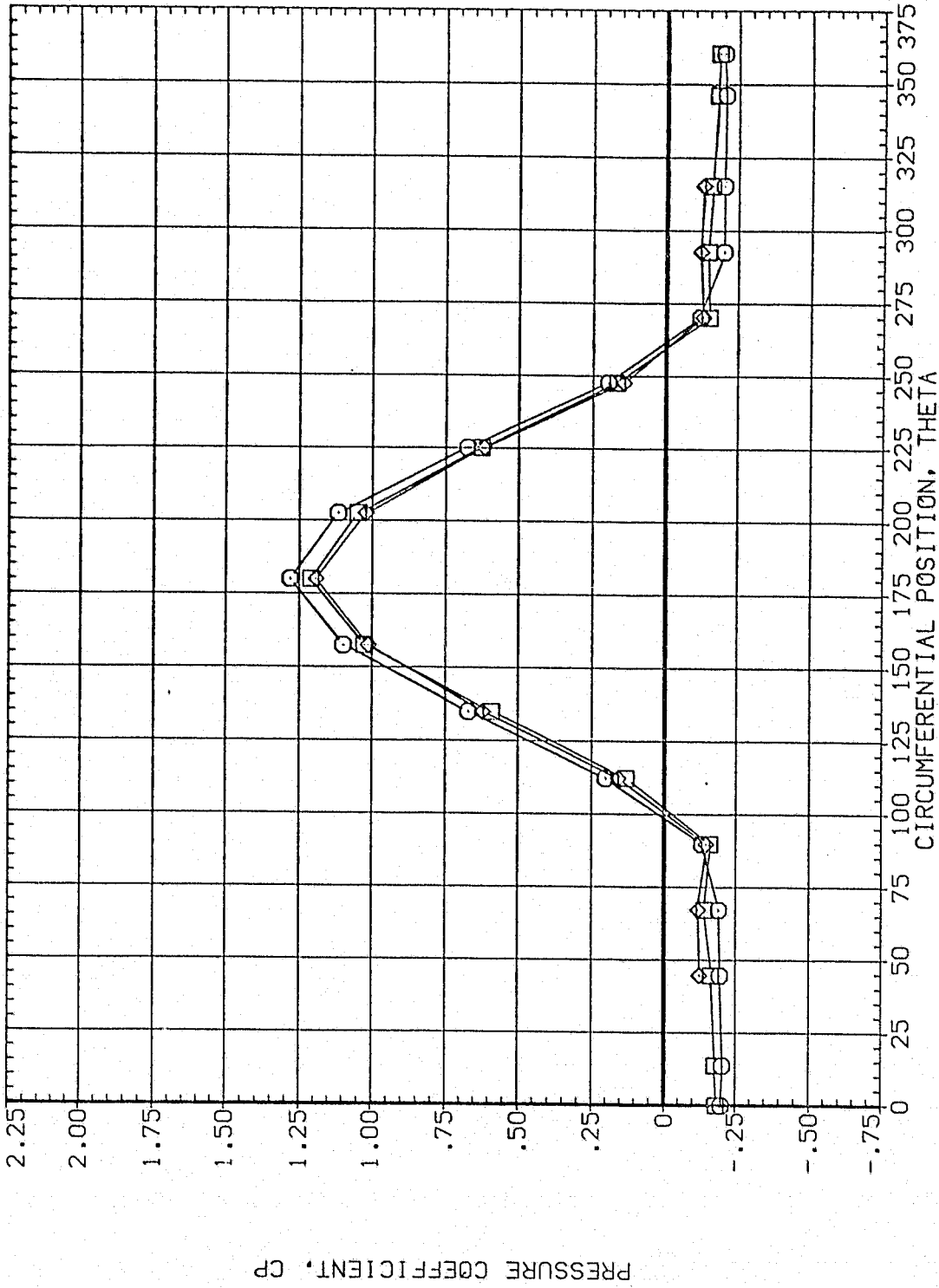


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL

X/LB

ALPHA

MACH

BETA

MOUNT

PARAMETRIC VALUES

OFFSET

PHI

60.000

2.000

.000

.000

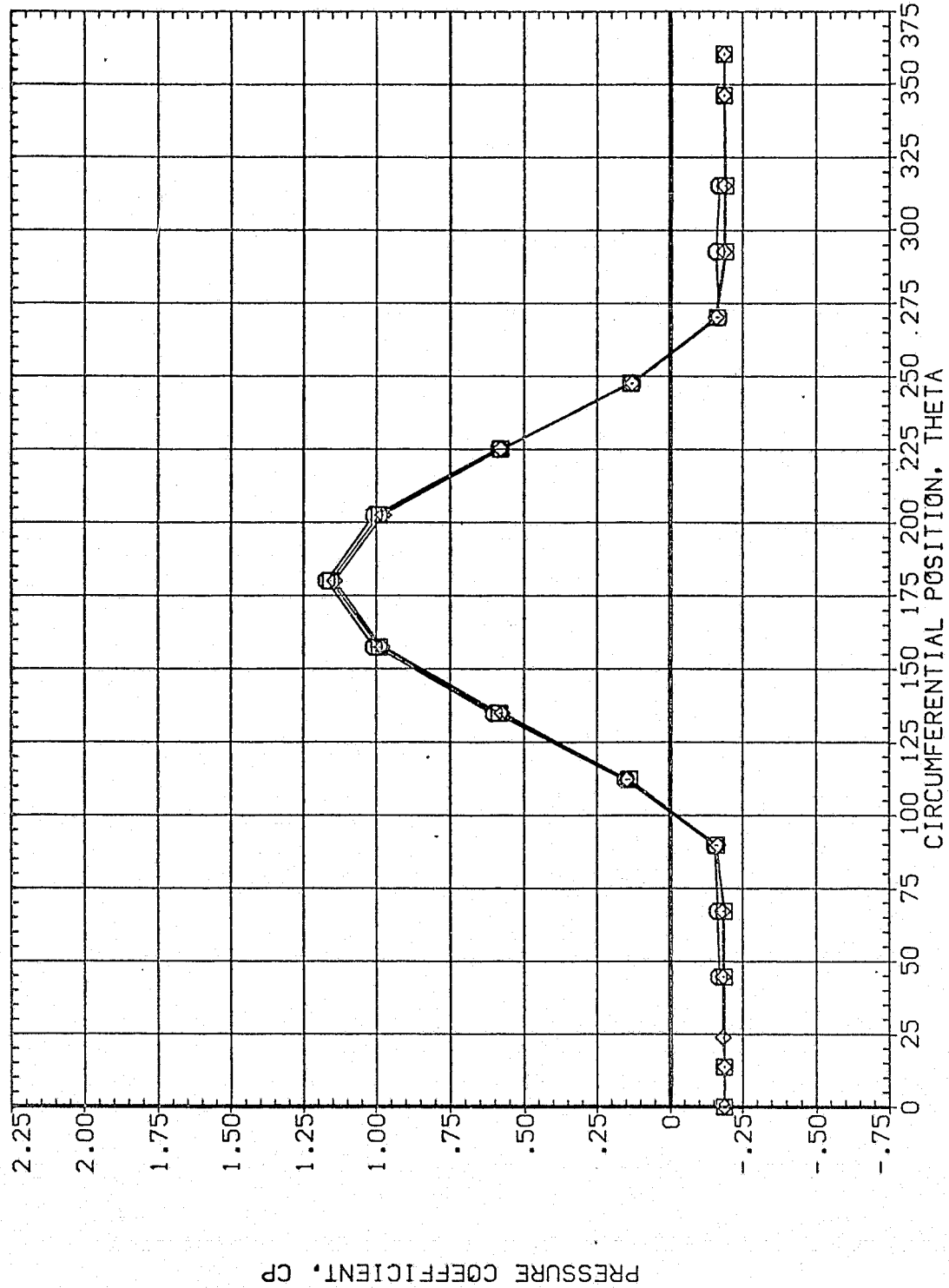


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL X/LB ALPHA MACH  
 ○ .892  
 □ .923  
 ◇ .954

PARAMETRIC VALUES  
 BETA .000  
 MCUNT 2.000  
 OFFSET 60.000  
 PHI .000

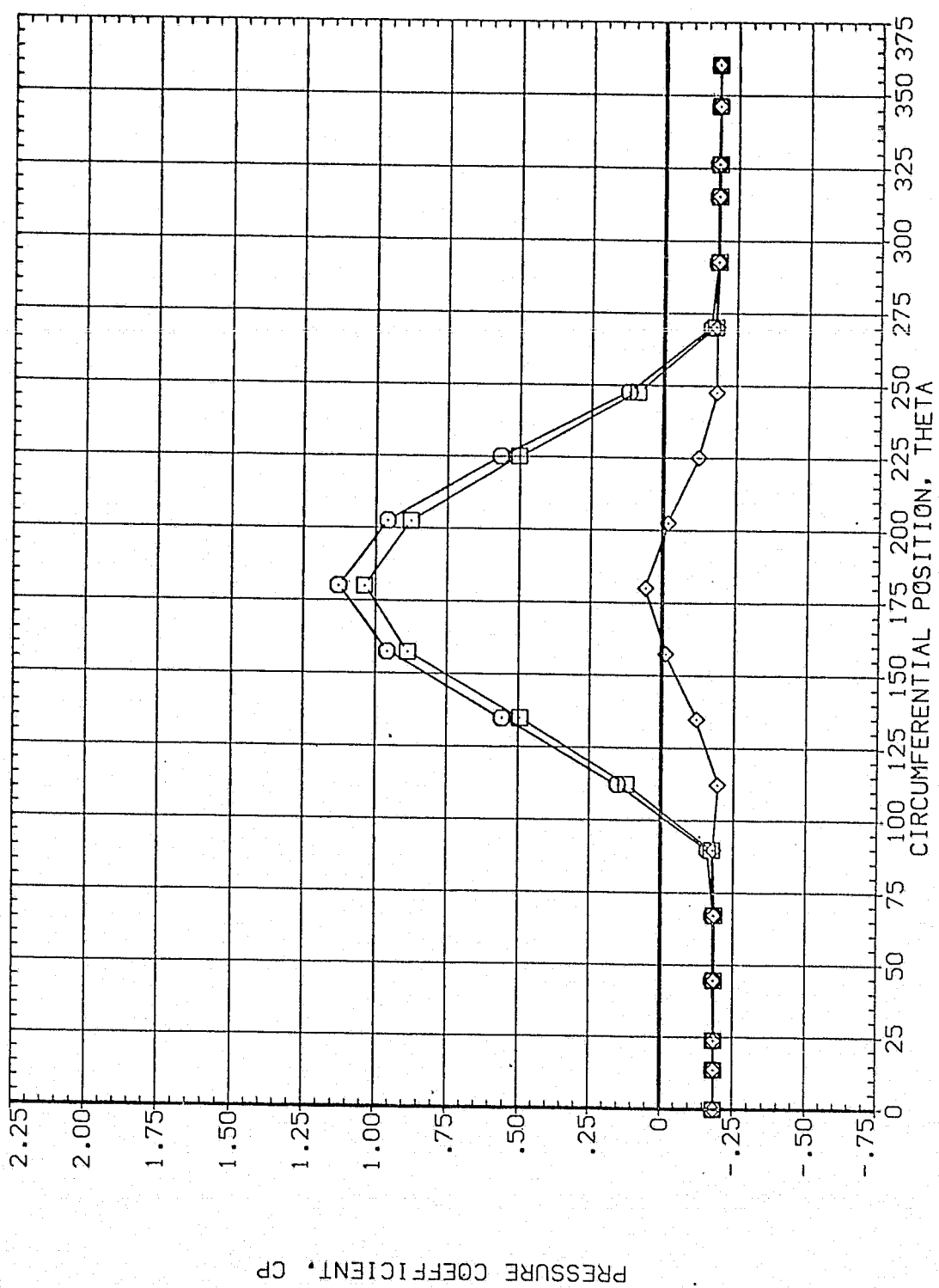


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2. (P1A064)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	60.130	1.970	MOUNT	.000	.000
□	.108				2.000	
◇	.162					

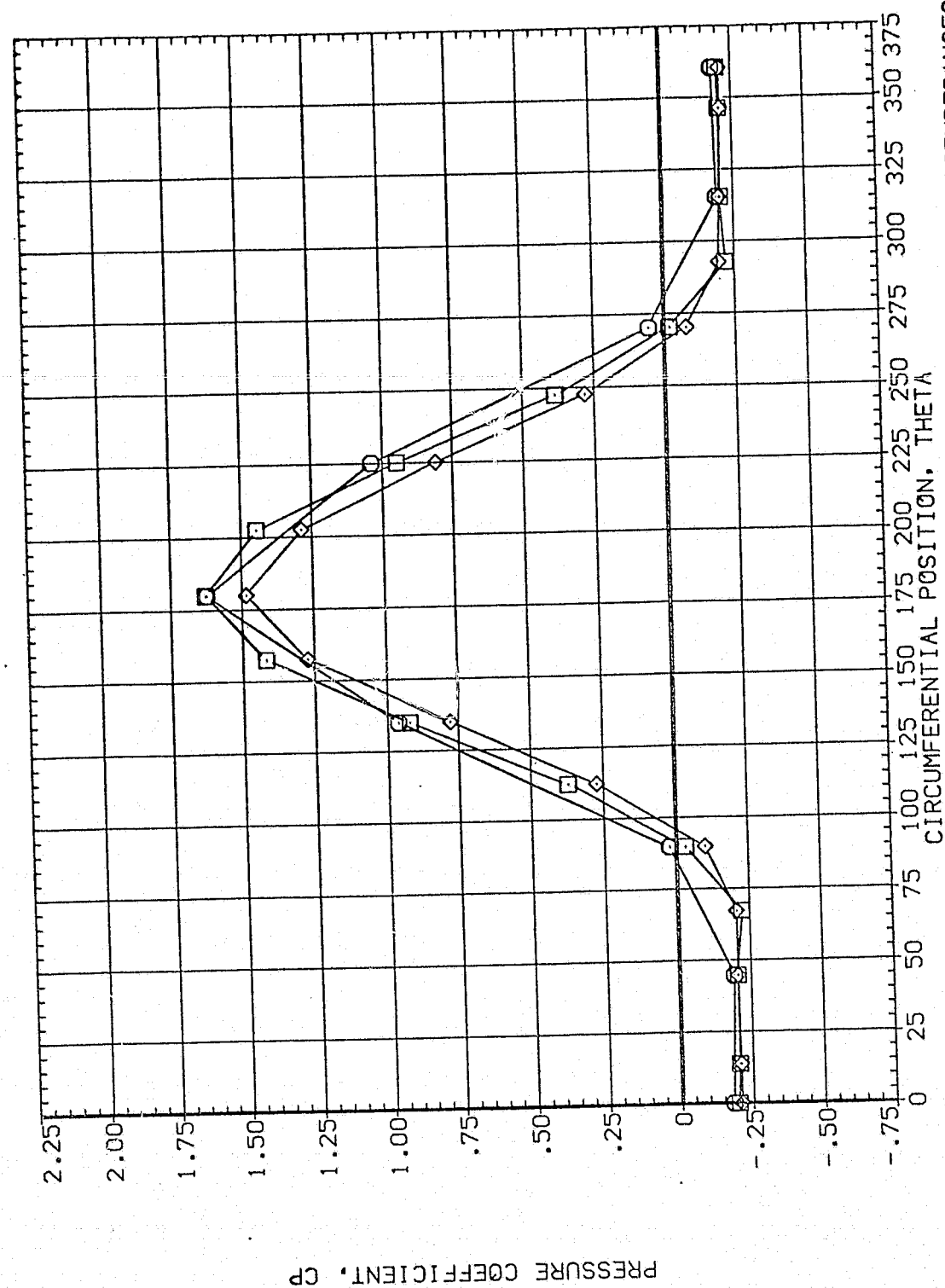


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.216	60.130	1.970	MOUNT	.000	60.000
□	.322				2.000	
◇	.518					.000

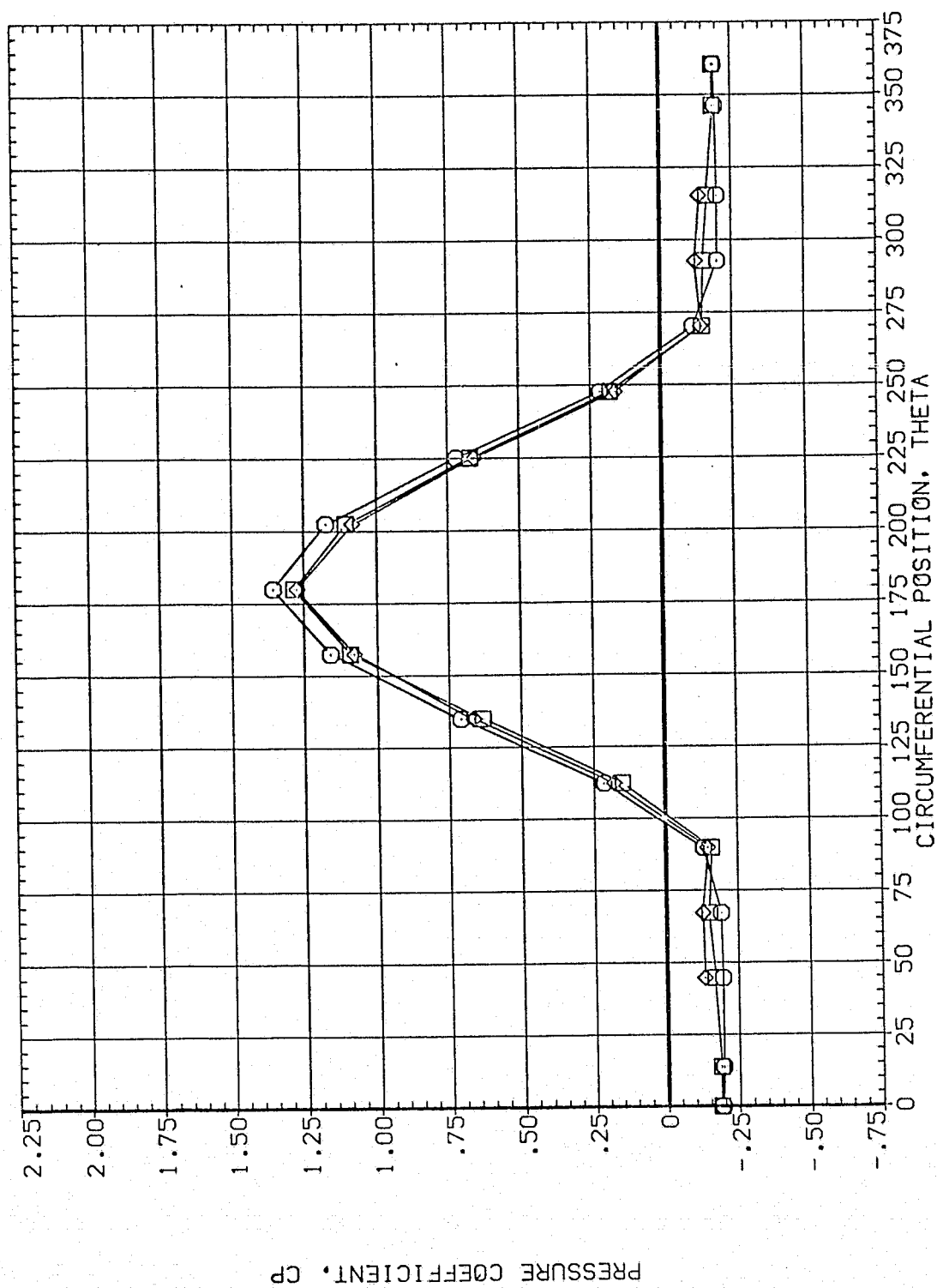


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL  
 ◇  
 □  
 ○

X/LB .610  
 .735  
 .860

ALPHA 60.130  
 MACH 1.970

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 .000 60.000  
 PHI .000

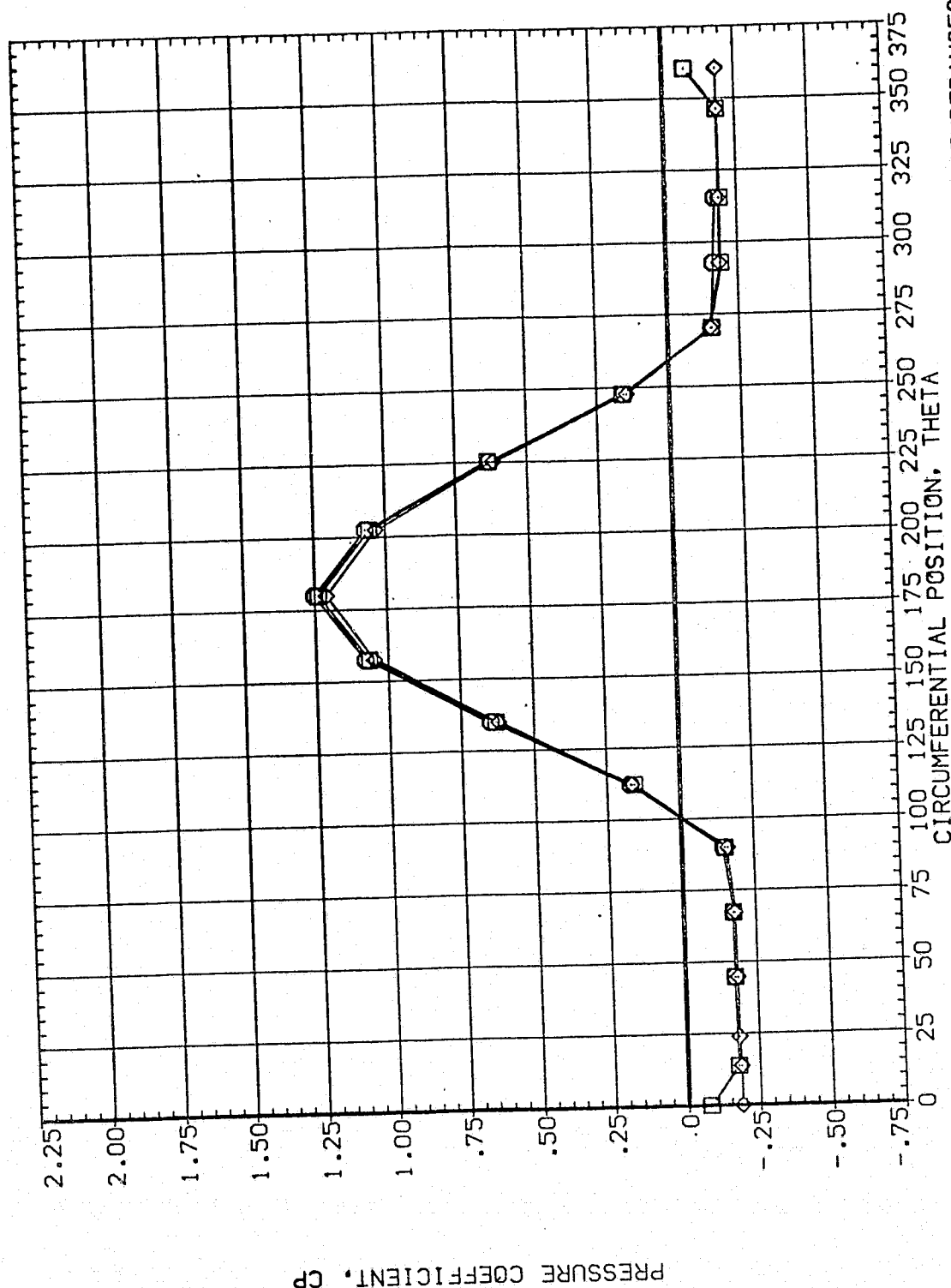


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
				MOUNT	2.000	.000

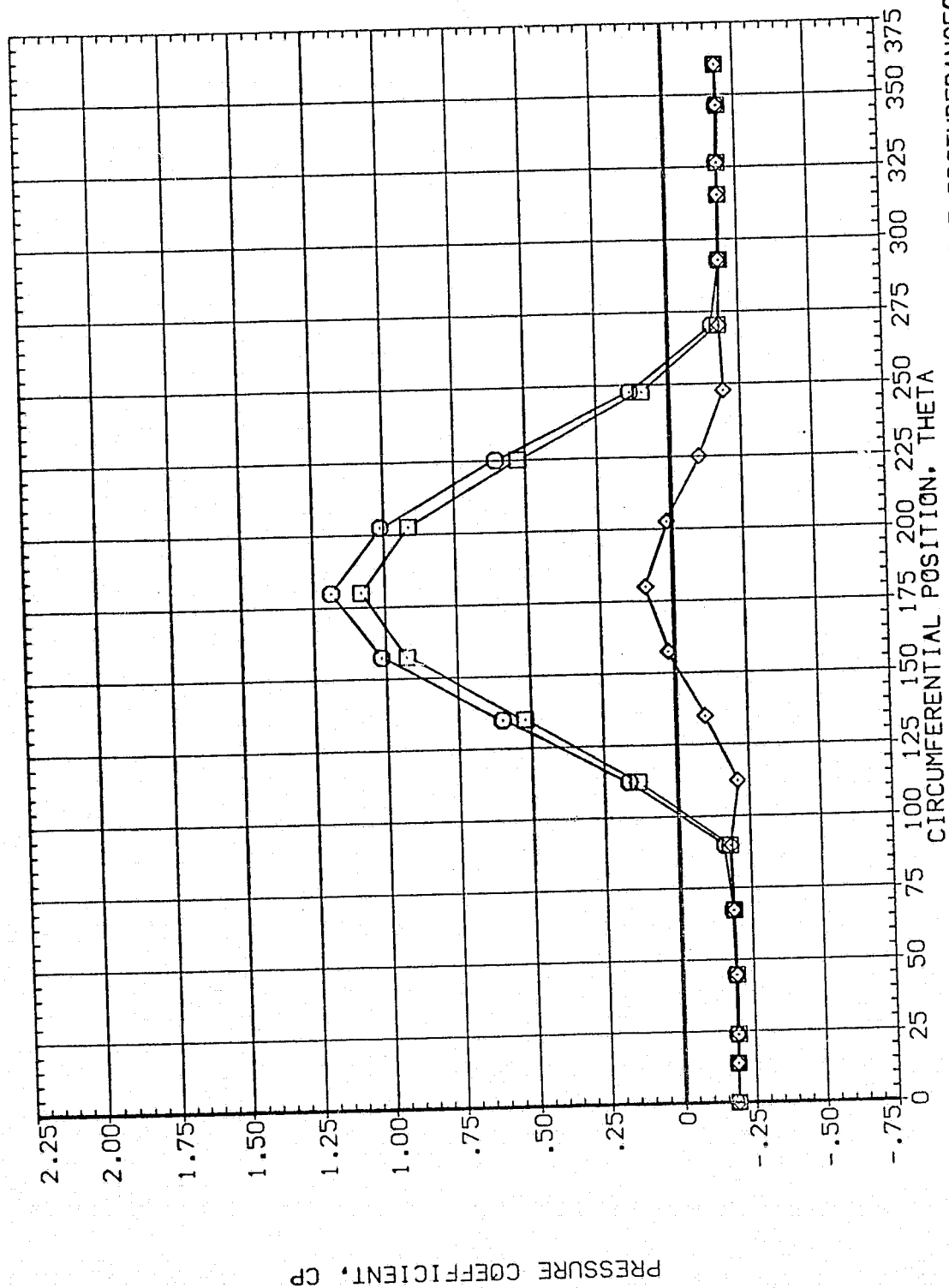


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.055	63.130	1.960	HQUNT	.000	60.000
◇	.108				2.000	.000
◇	.162					

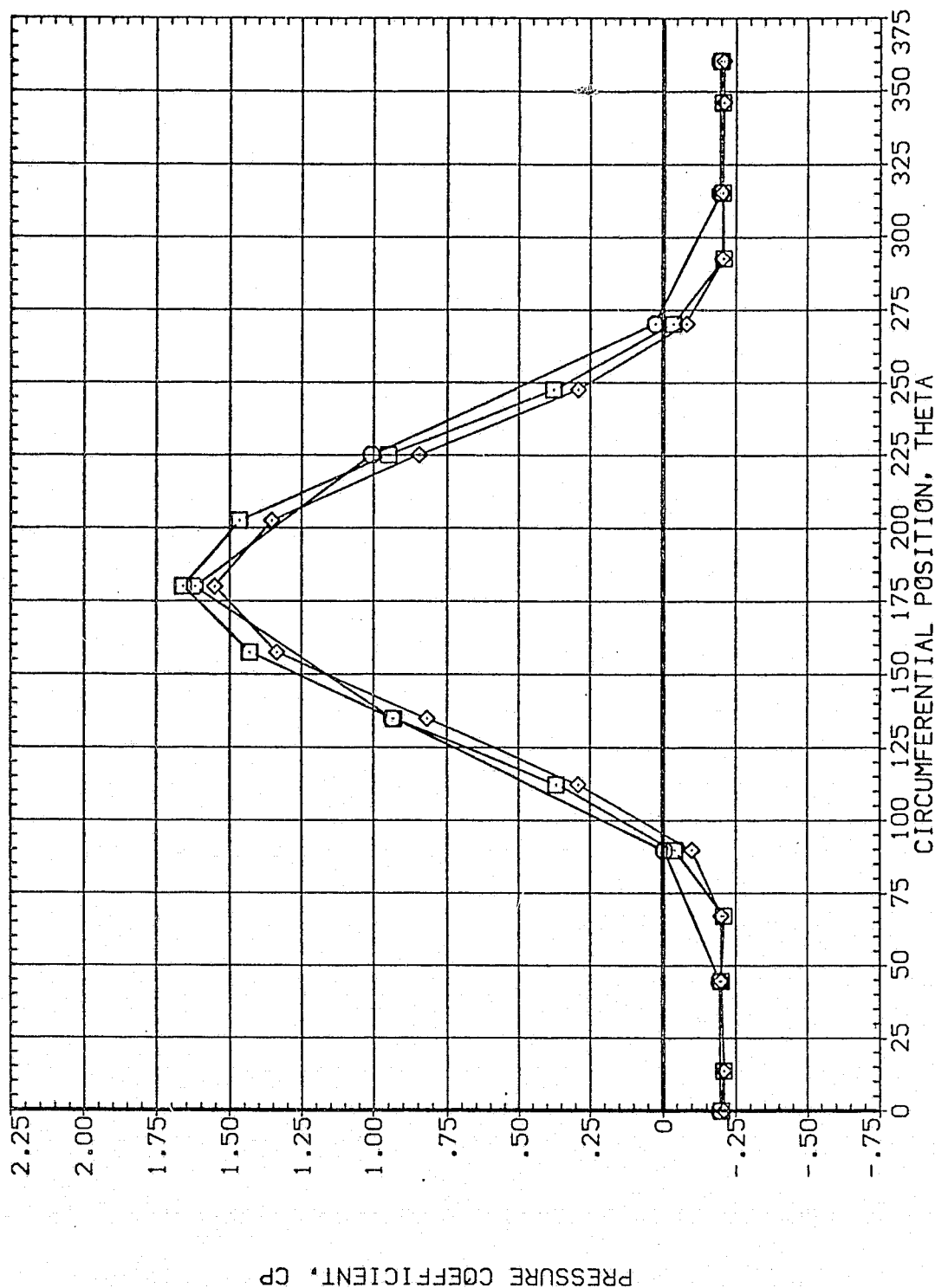


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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ORIGINAL PAGE IS POOR

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
	.216	74.860	3.480	BETA	80.000	OFFSET
	.322			MOUNT	2.000	PHI
	.518					.000

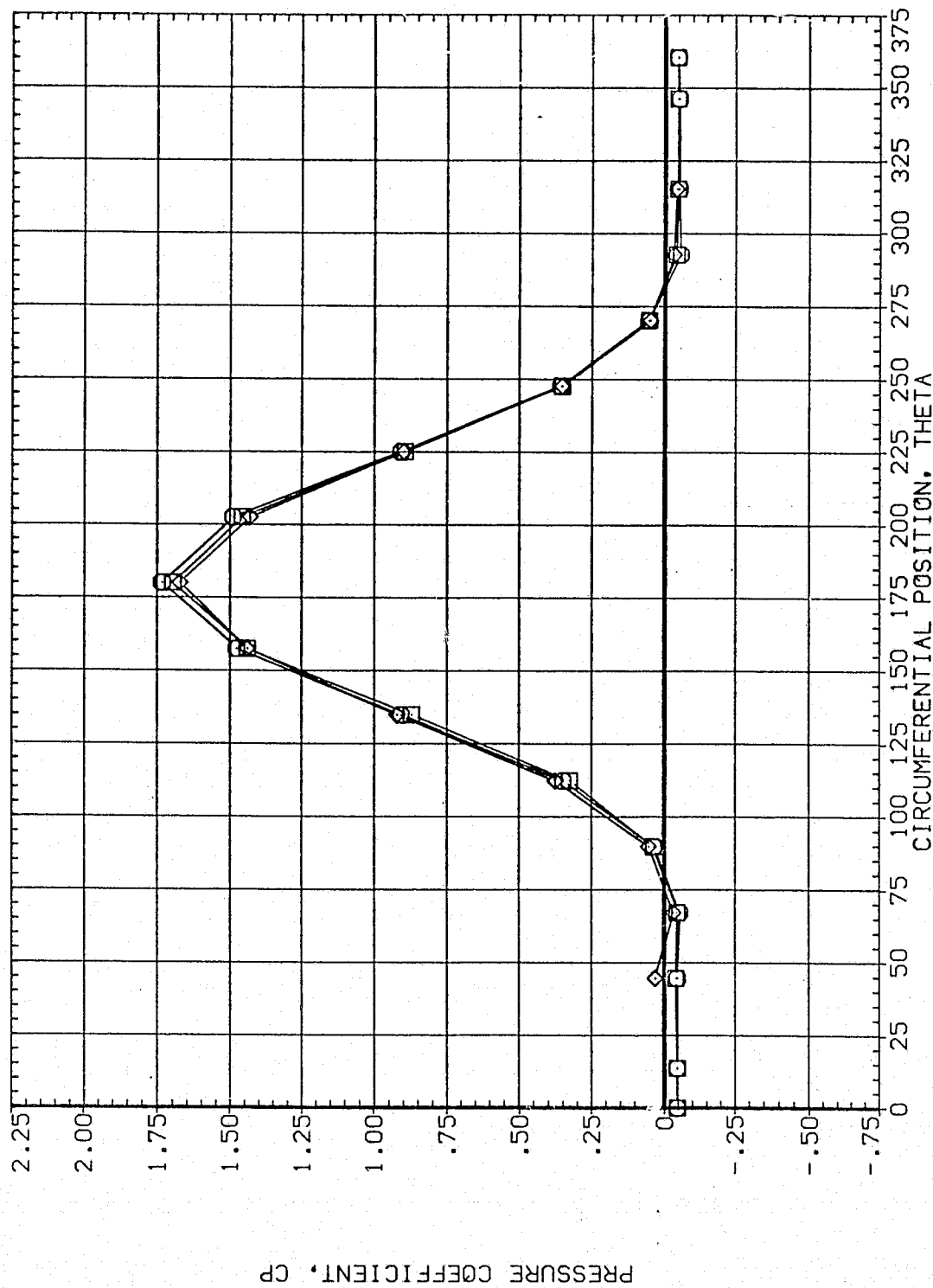


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	63.130	1.960	MOUNT	.000	60.000
□	.735				2.000	
◇	.860					.000

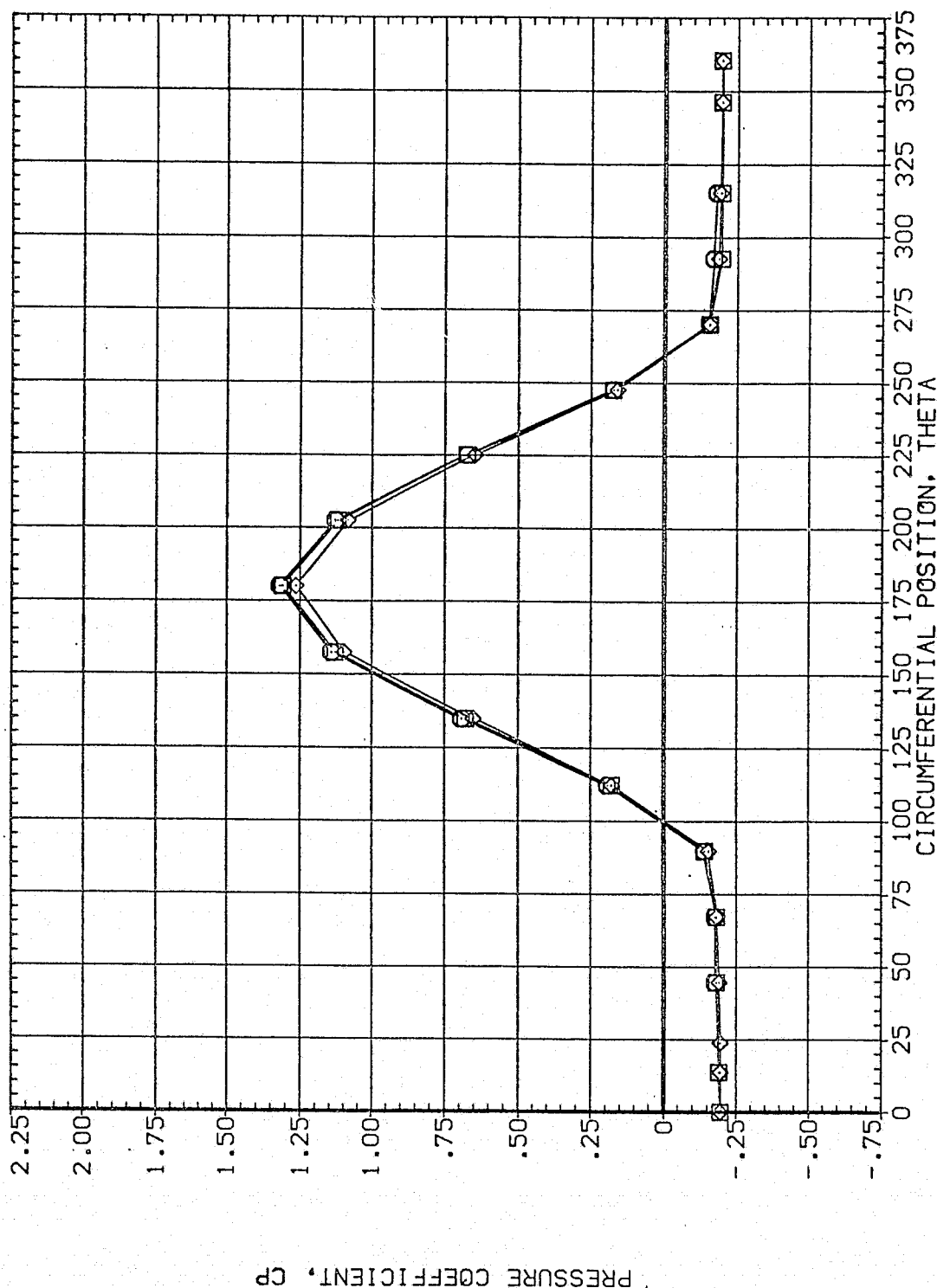


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

(P1A065)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
OFFSET PHI  
60.000  
.000

SYMBOL X/LB ALPHA MACH  
◇ .892 63.130 1.960  
□ .923  
○ .954

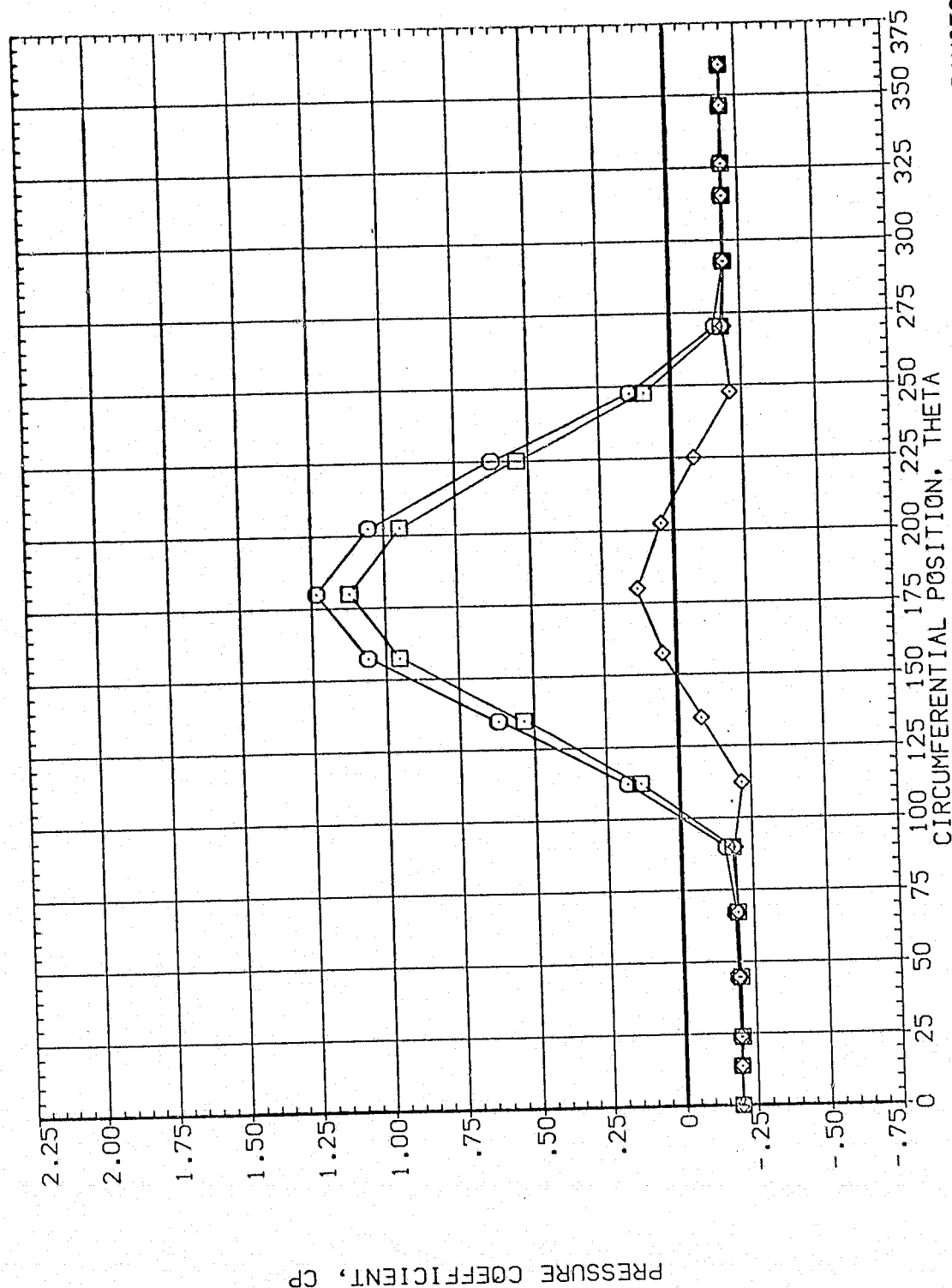


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL X/LB ALPHA MACH

□ .055 66.130 1.970

◇ .108 .162

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
OFFSET PHI .000

60.000  
.000

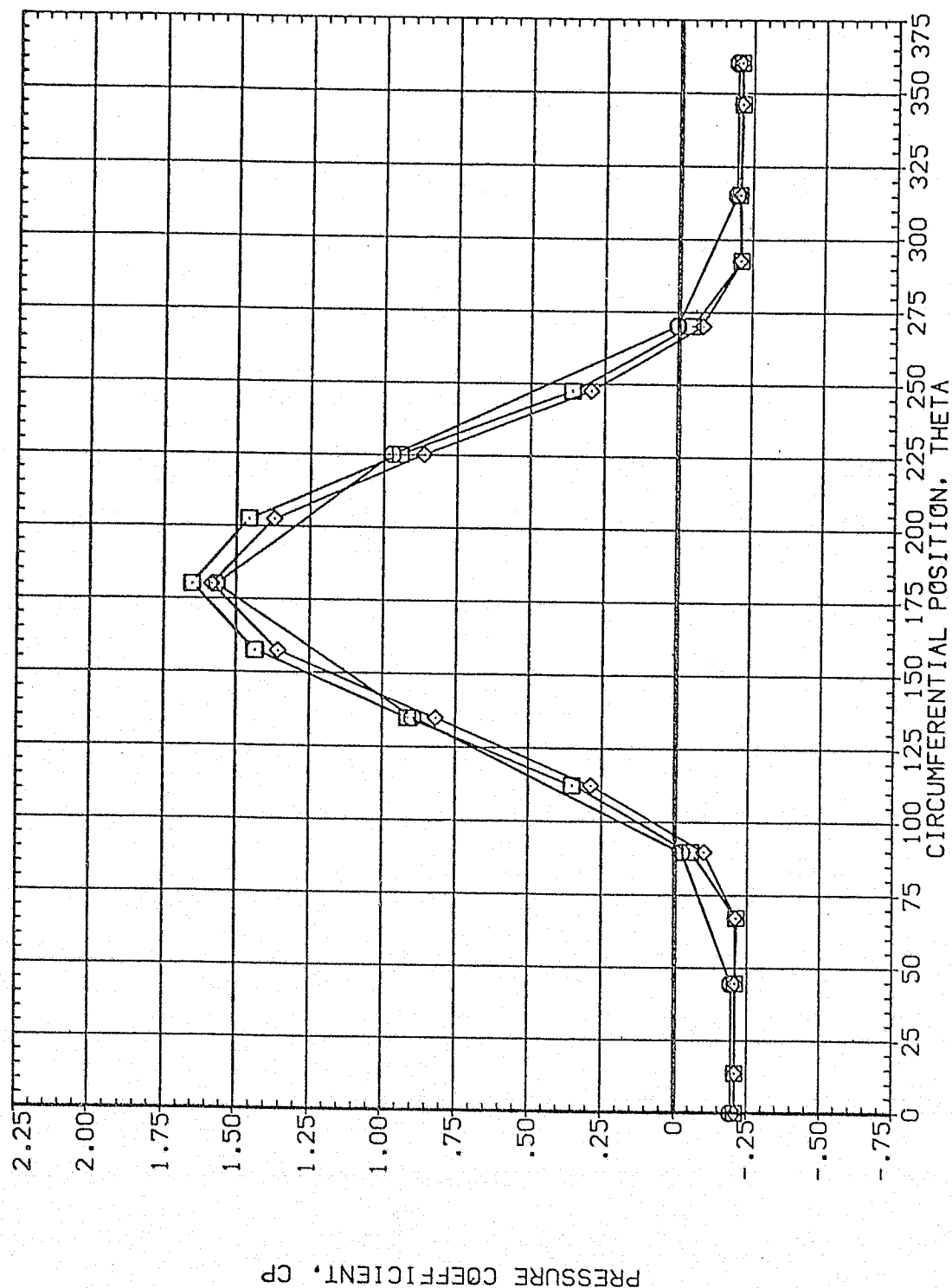


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2461

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A066)

SYMBOL X/LB ALPHA MACH  
 ○ .216 66.130 1.970  
 □ .322  
 ◇ .518

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 60.000  
 .000

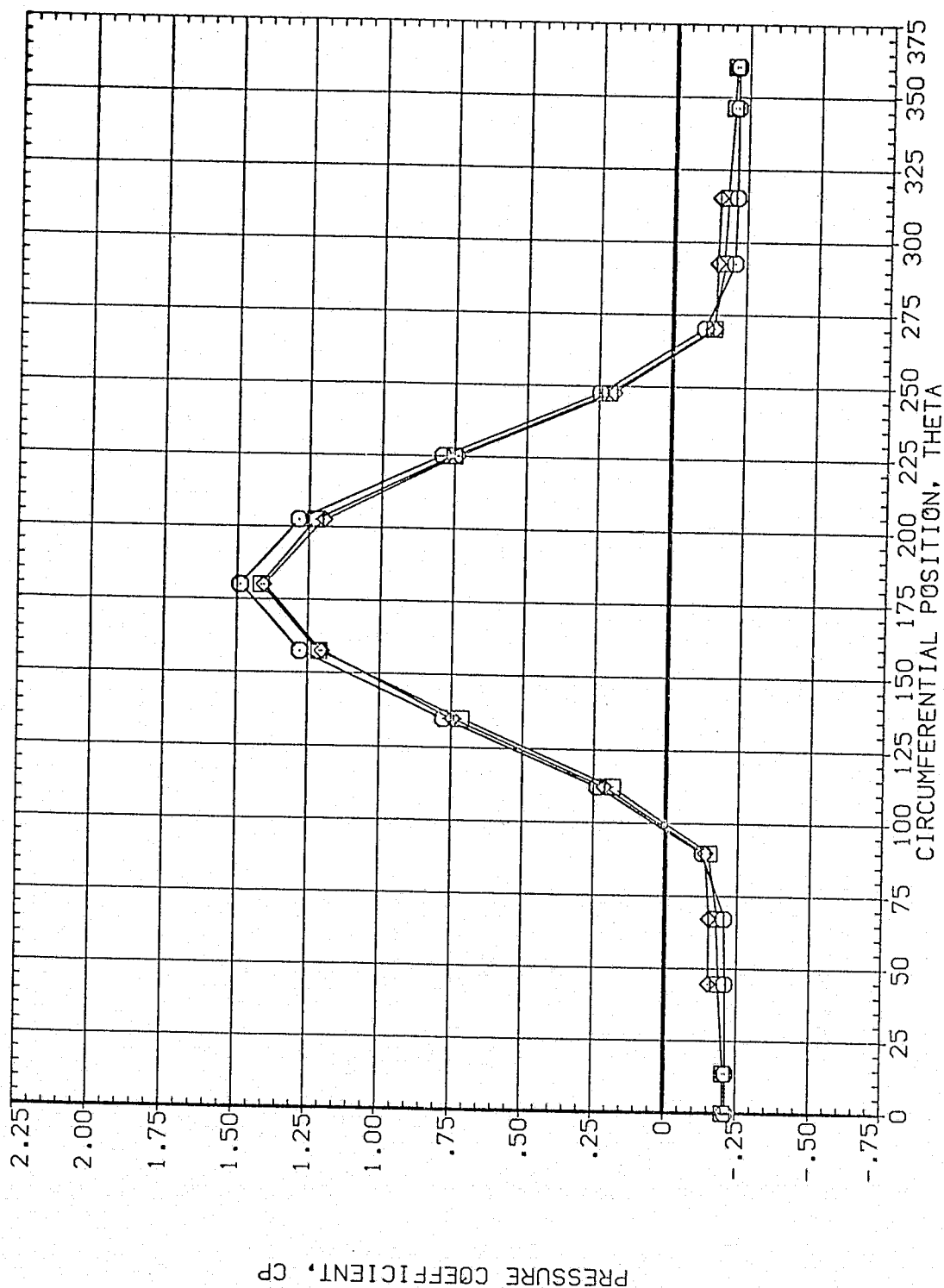


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	66.130	1.970	.000	.000	60.000
□	.735			2.000		.000
◇	.860					

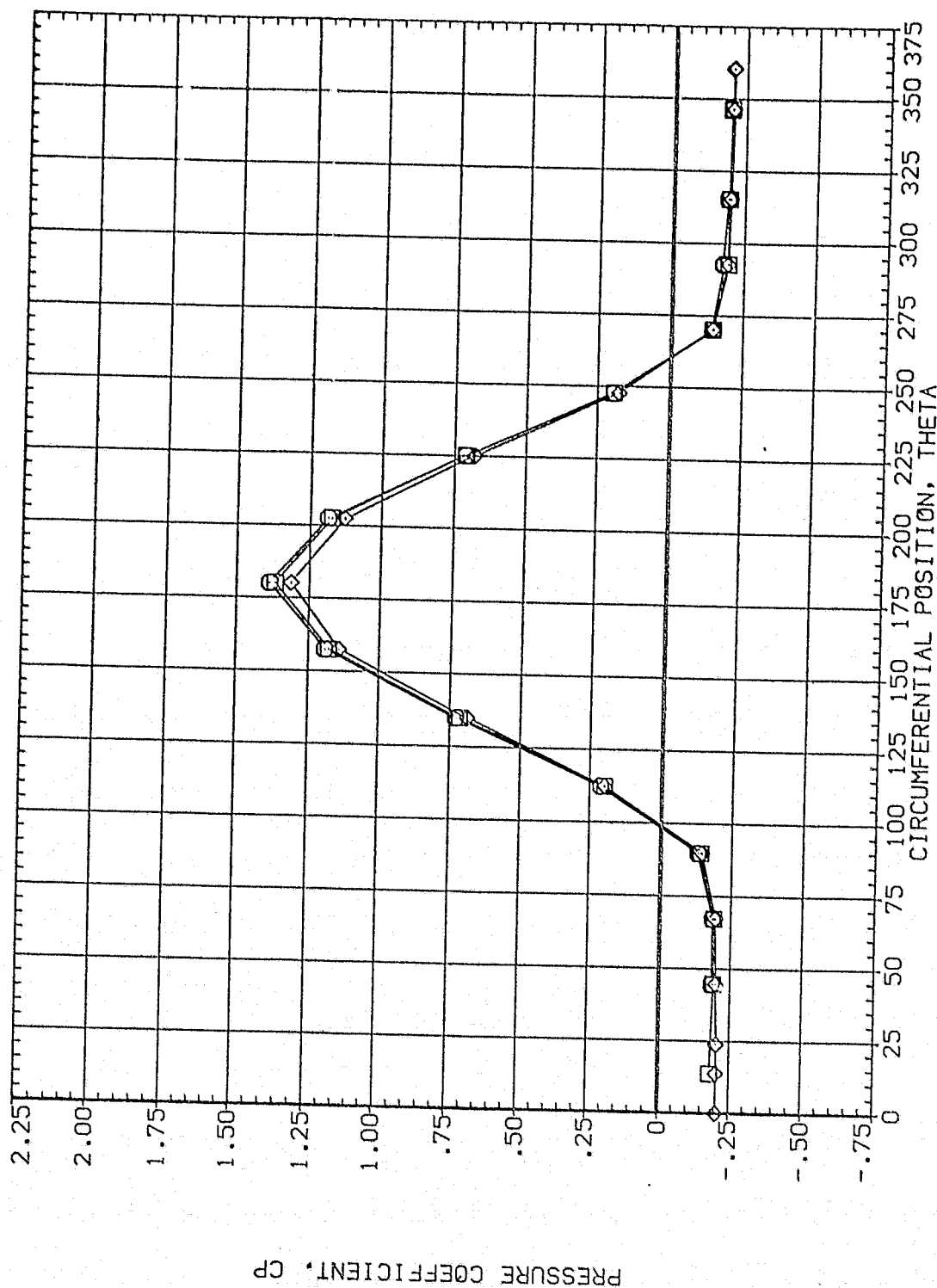


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.892	66.130	1.970	HOUNT	.000	50.000
□	.923				2.000	
◇	.954					.000

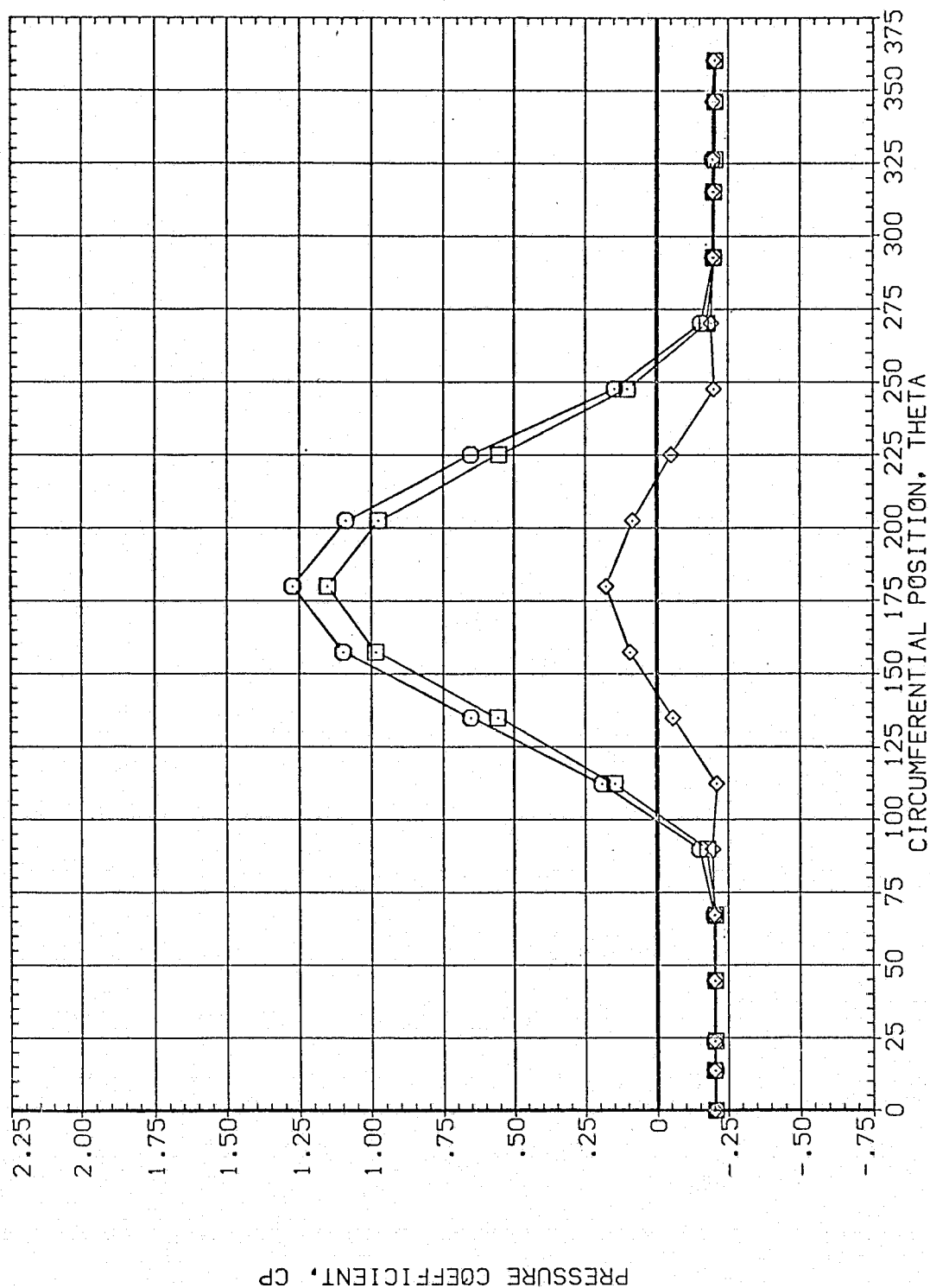


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	50.000
○	.055	69.130	1.970	MOUNT	PHI	.000
□	.108					
◇	.162					

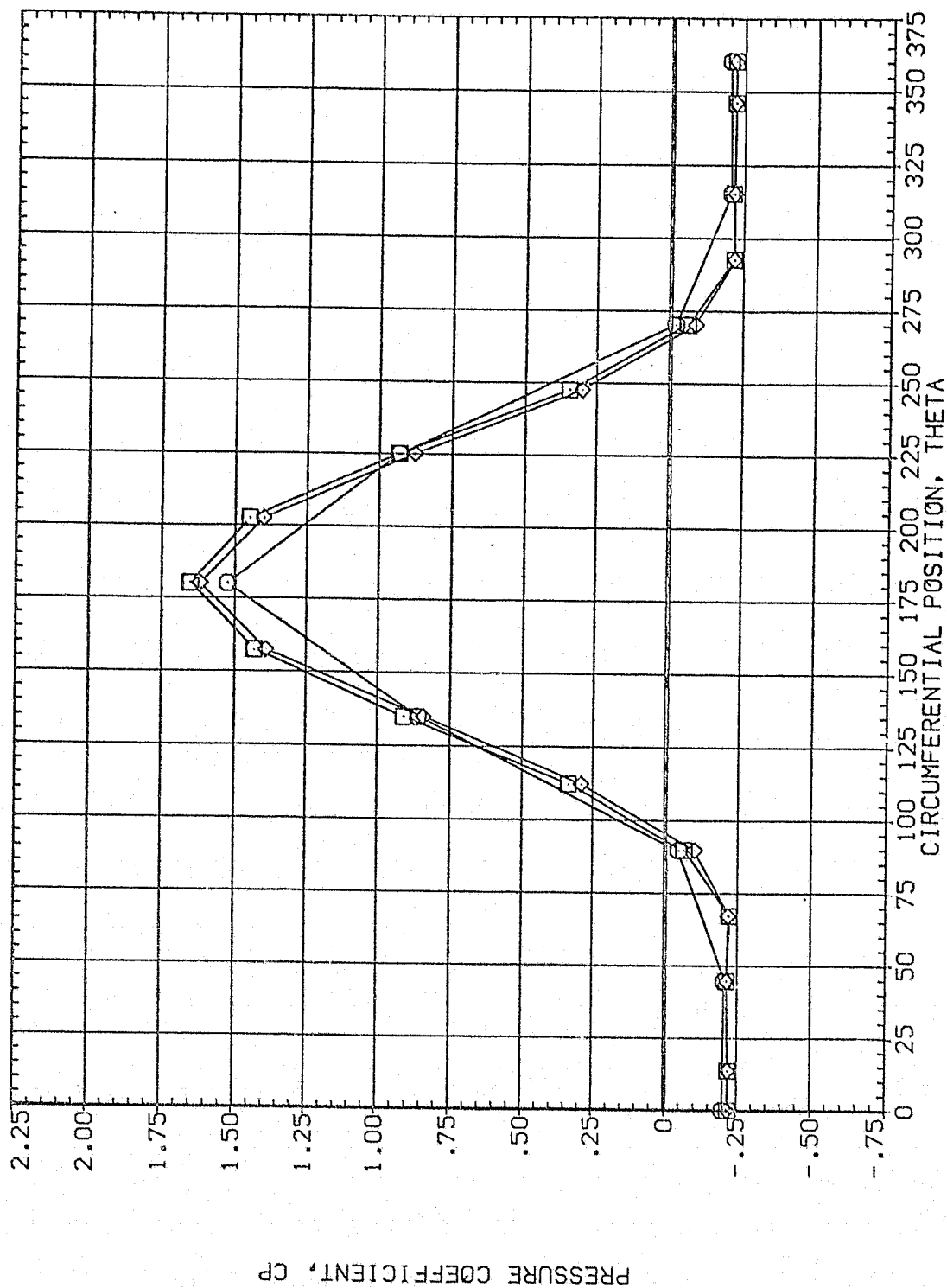


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL X/LB ALPHA MACH  
 □ .216 69.130 1.970  
 ◇ .322 .518

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI .000

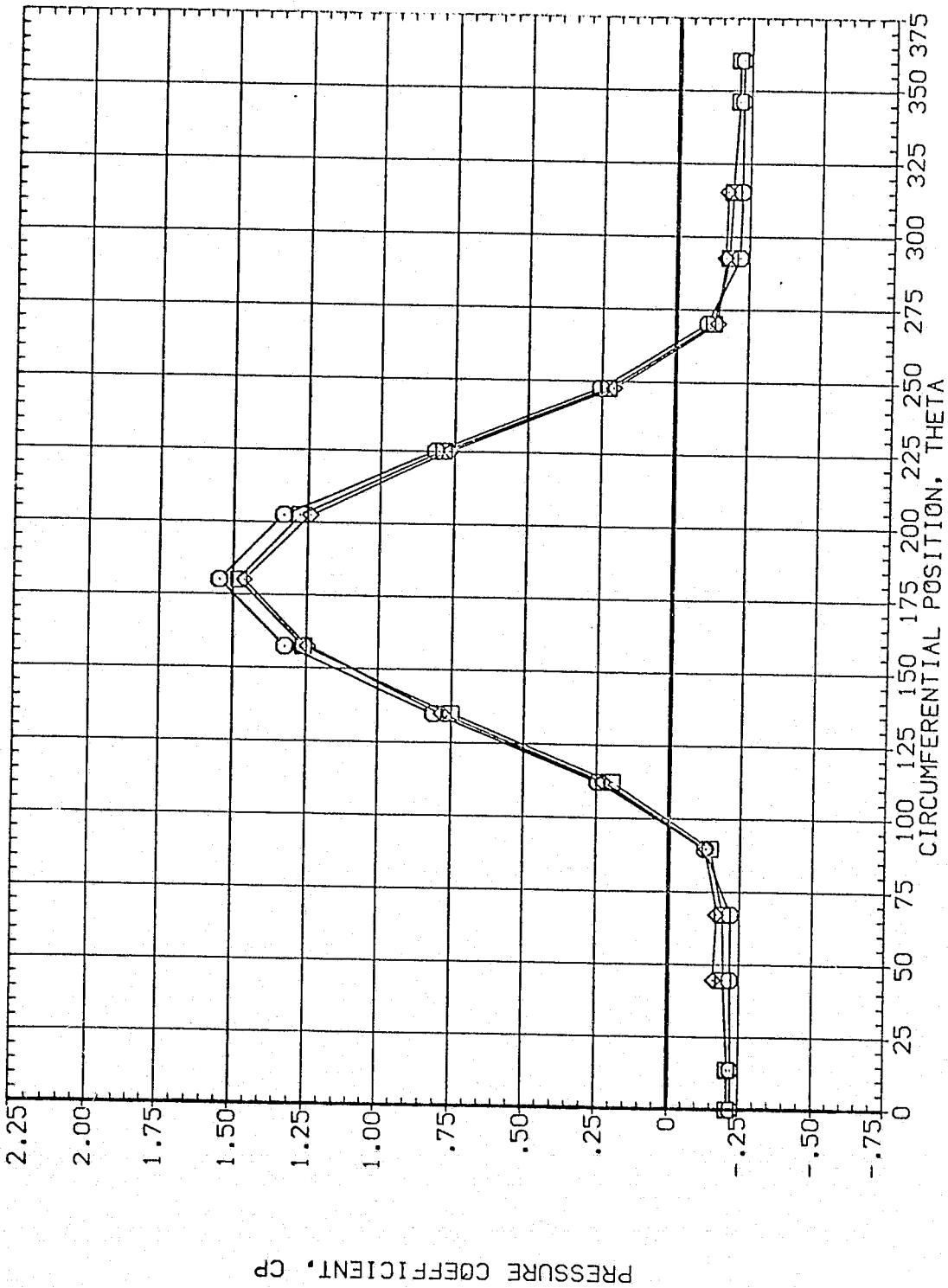


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
 PAGE 2466

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	69.130	1.970	MOUNT	.000	60.000
□	.735				2.000	
◇	.860					.000

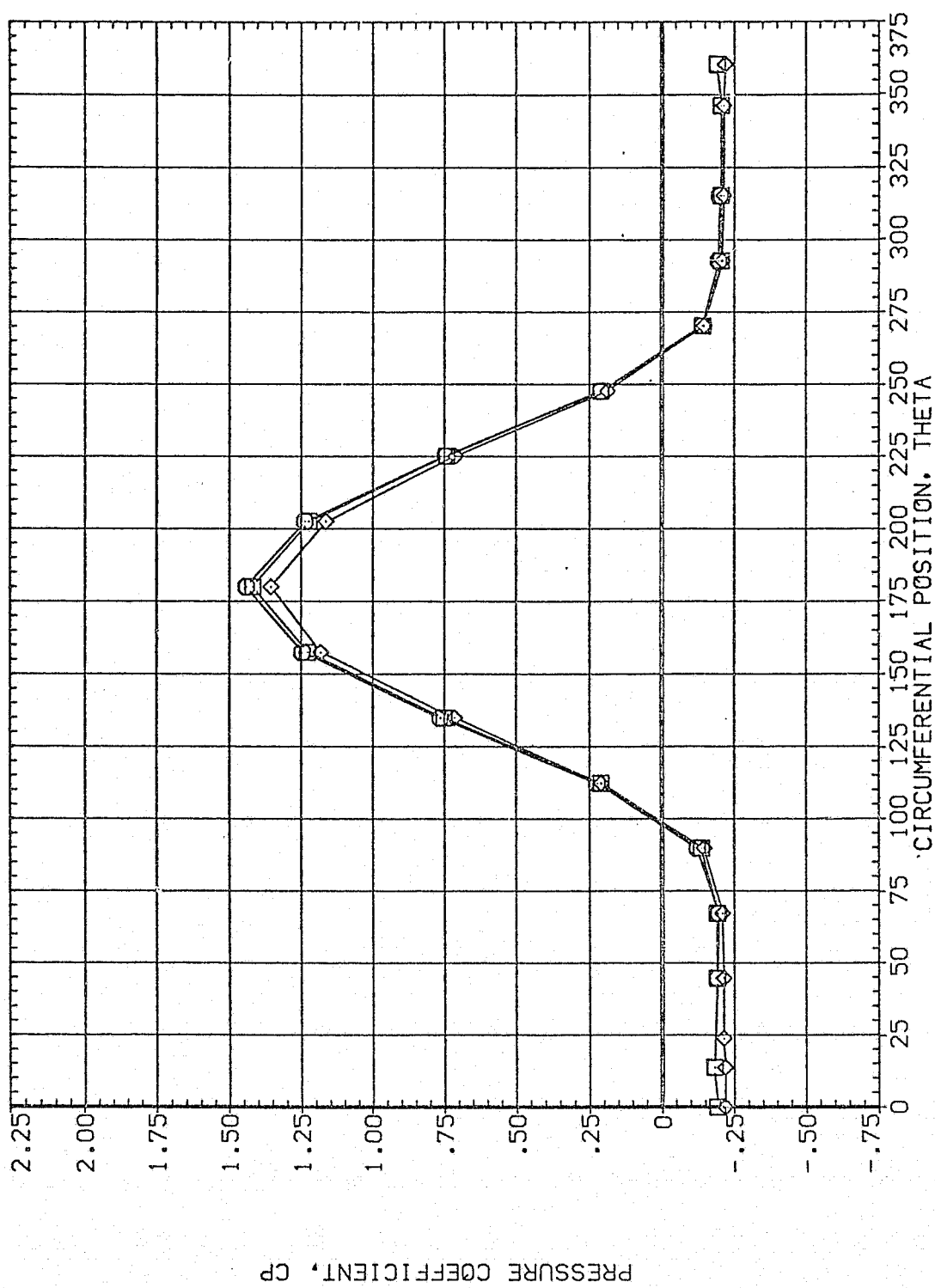


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A067)

SYMBOL

X/LB

ALPHA

MACH

69.130 1.970

.892  
.923  
.954

PARAMETRIC VALUES

BETA  
MOUNT

.000  
2.000  
PHI

60.000  
.000

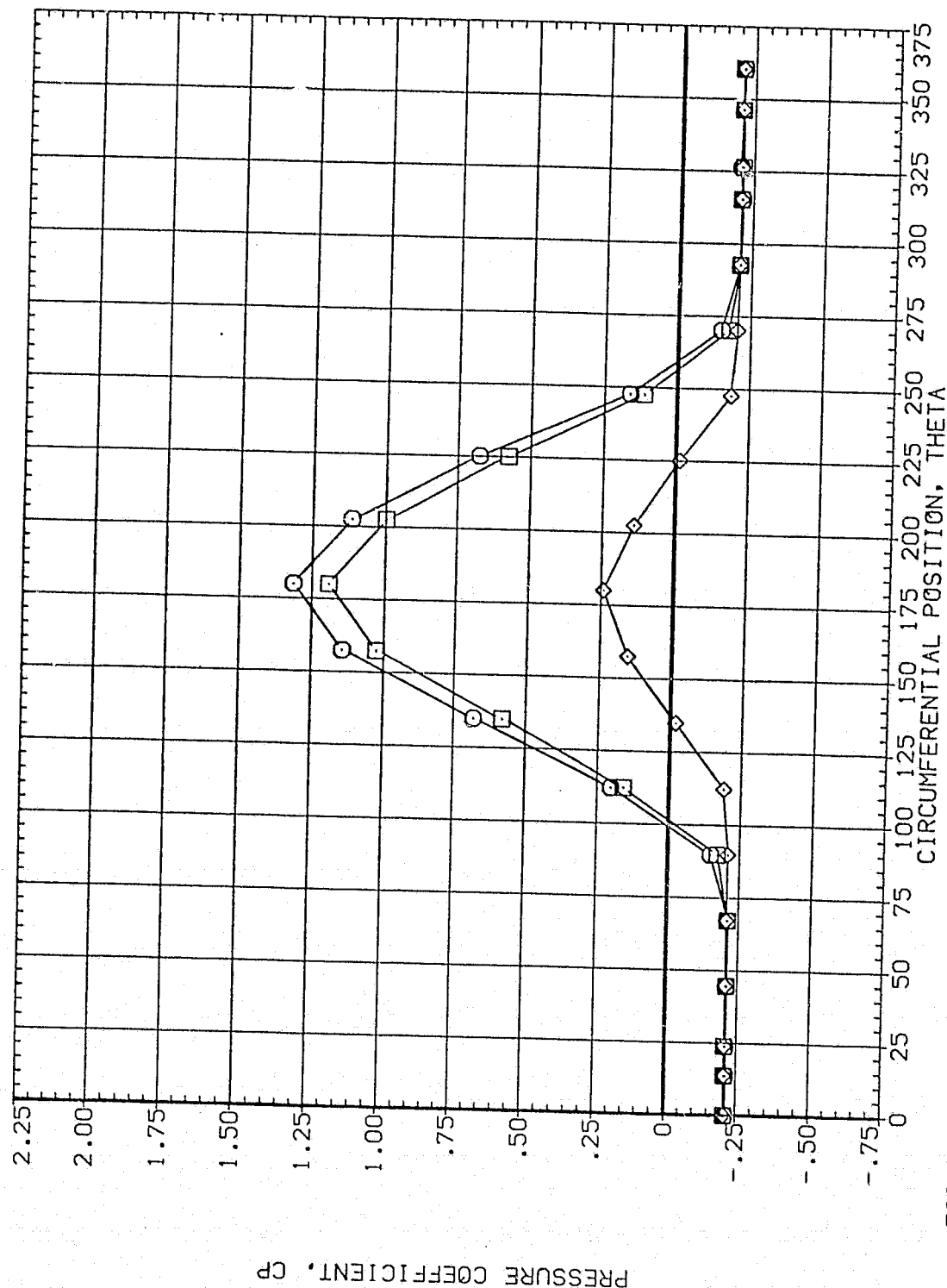


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	80.000
○	.055	69.960	1.960	HOUNT	PHI	.000
□	.108					
◇	.162					

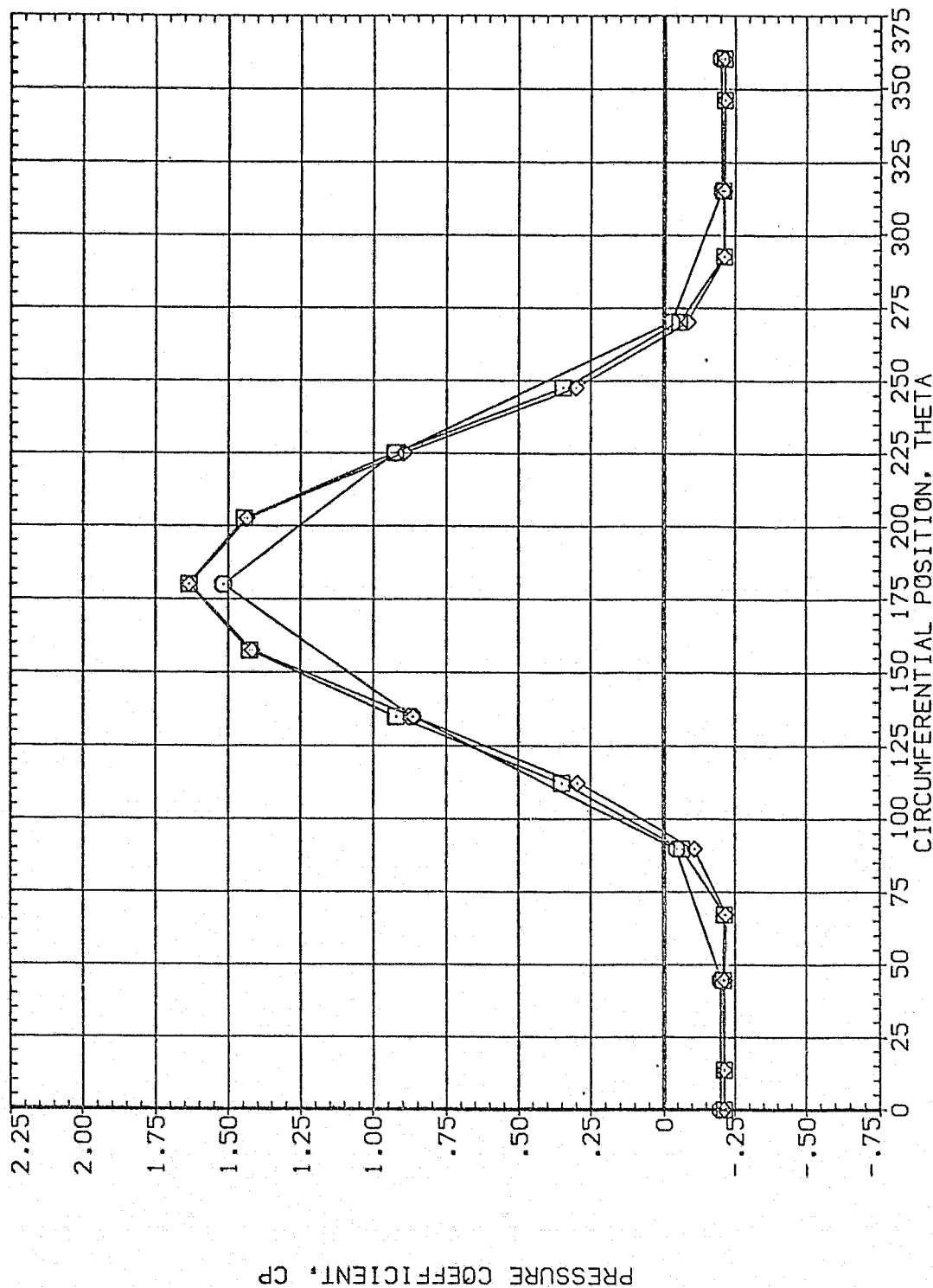


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.216	89.960	1.960	MOUNT	.000 OFFSET
□	.322				2.000 PHI
◇	.518				.000

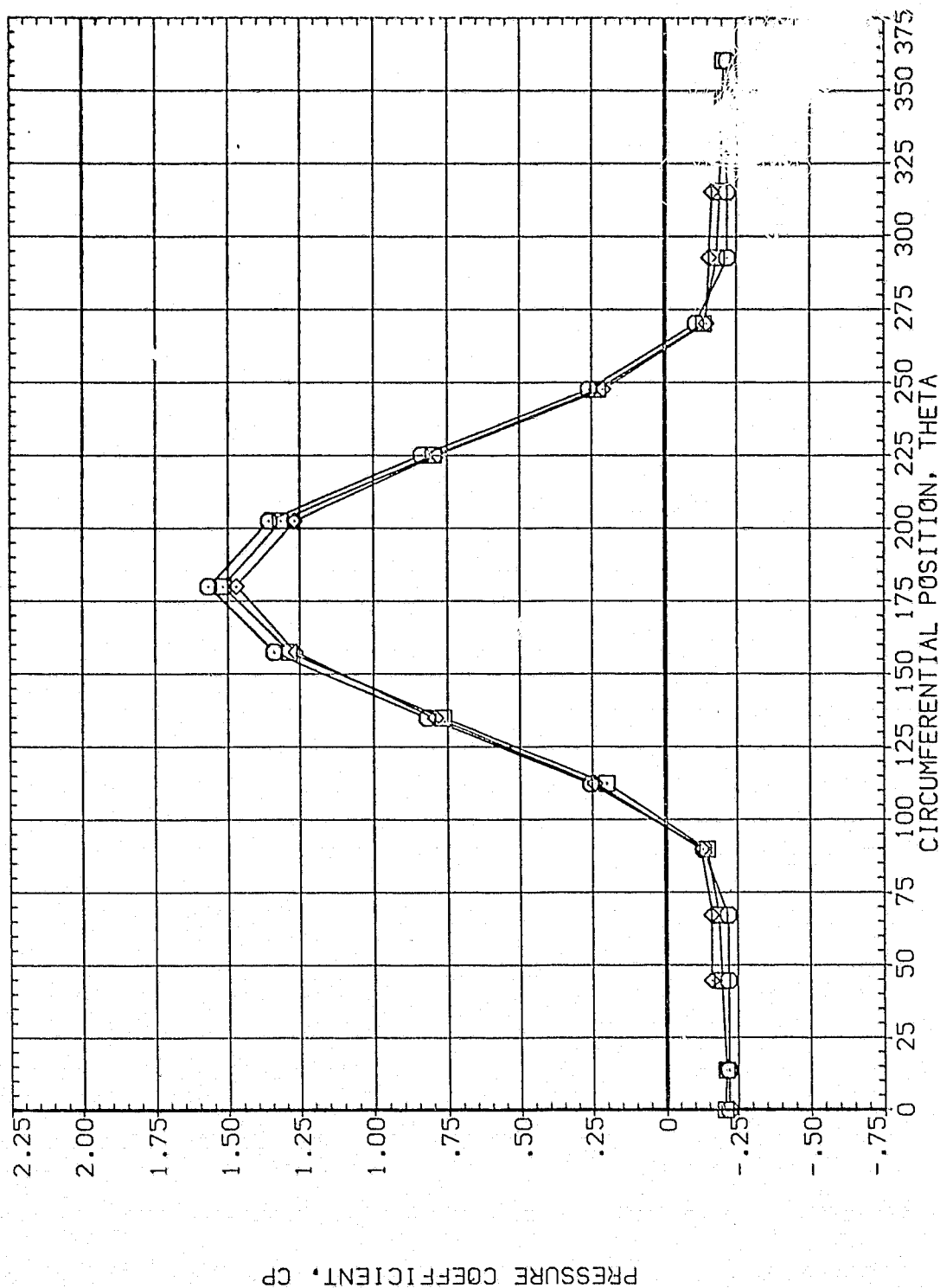


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	80.000
○	.610	69.960	1.960	MOUNT	PHI	.000
□	.735					
◇	.860					

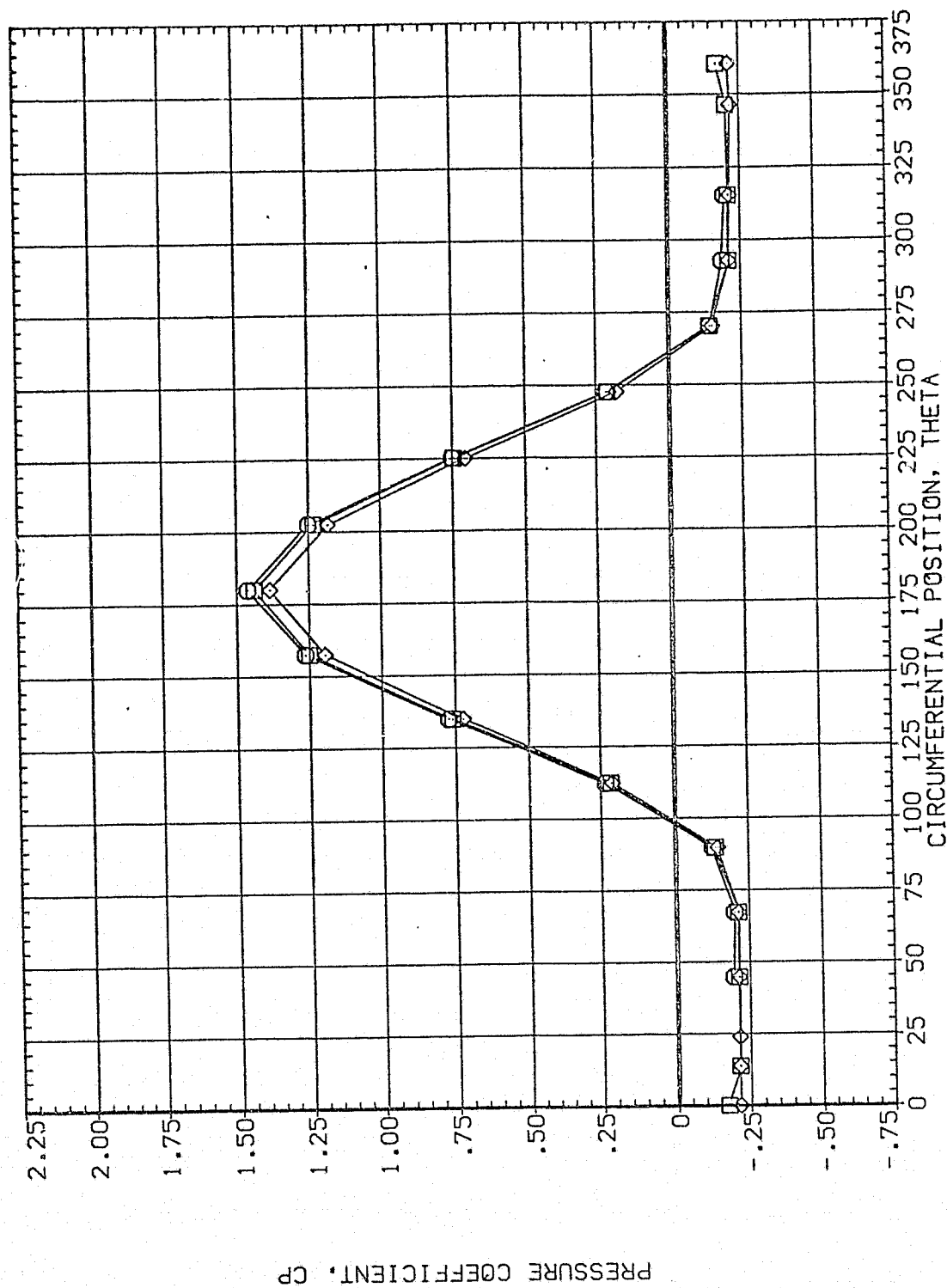


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2471

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A068)

SYMBOL  
○  
□  
◇

X/LB .892  
.923  
.954

ALPHA 69.960

MACH 1.960

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
OFFSET .000  
PHI .000

80.000  
.000

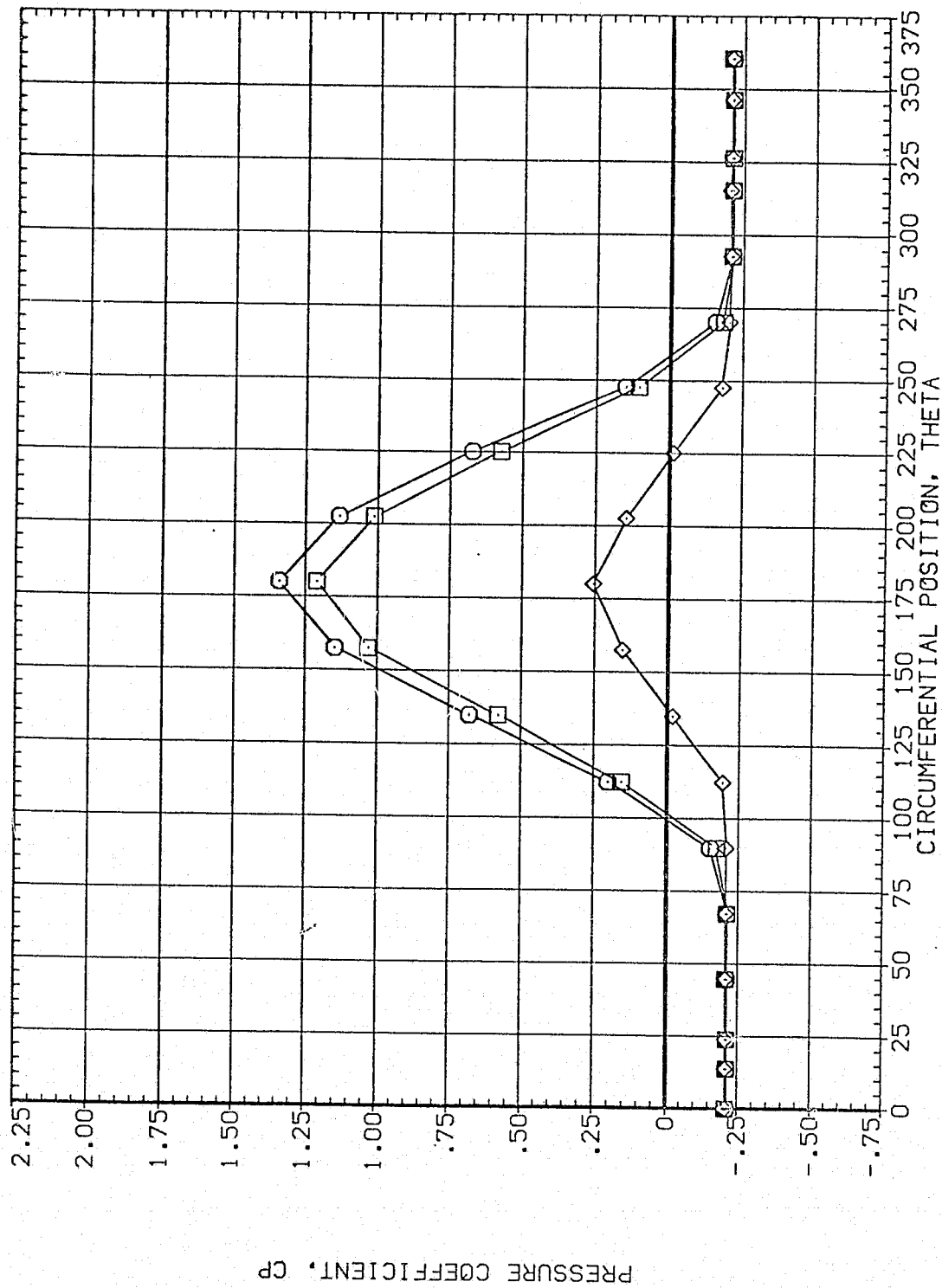


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2. (P1A069)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.055	71.880	1.960	MOUNT	.000	80.000
◇	.108				2.000	.000
◇	.162					

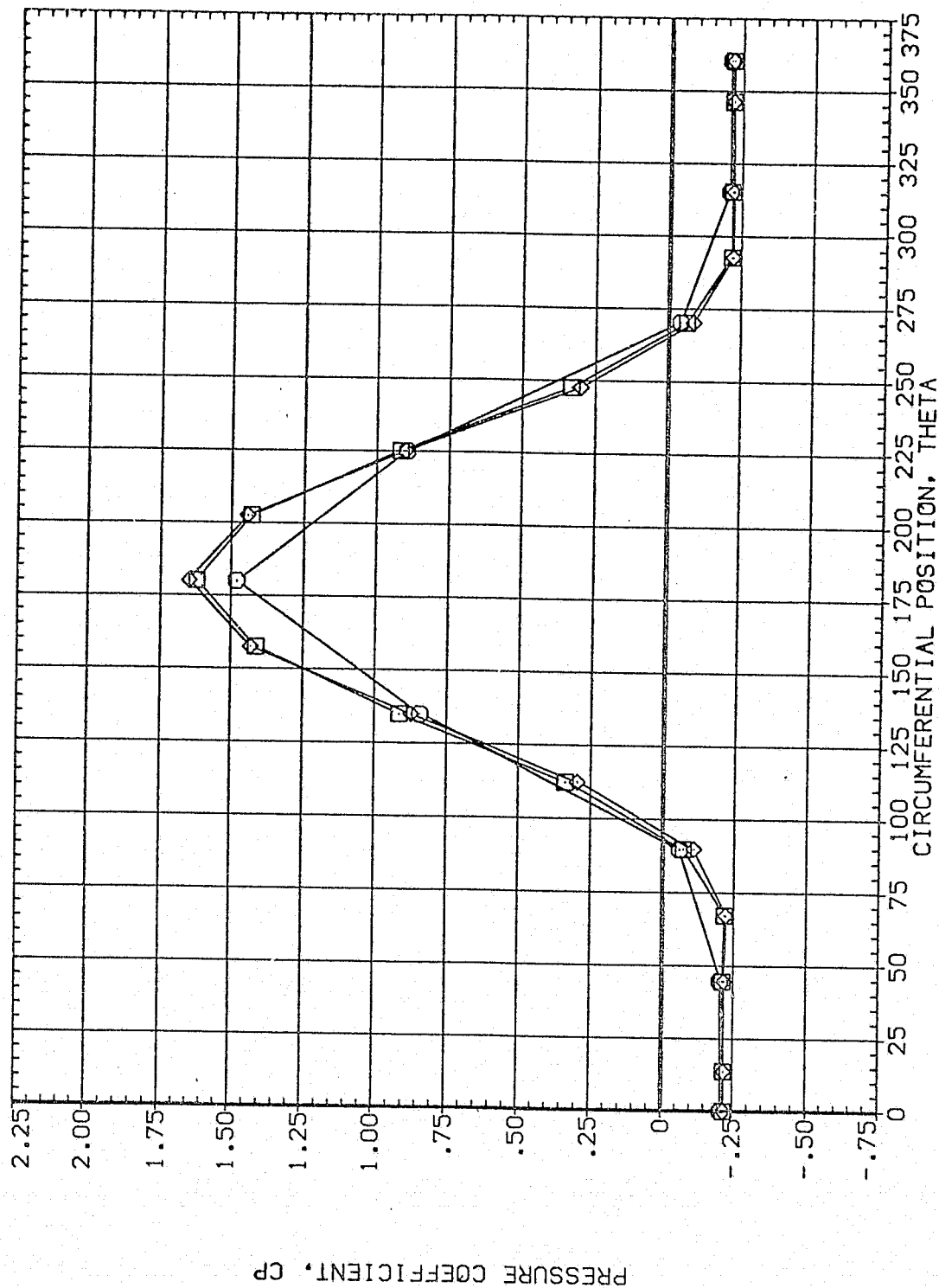


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.216	71.880	1.960	MOUNT	.000
□	.322			OFFSET	2.000
◇	.518			PHI	.000

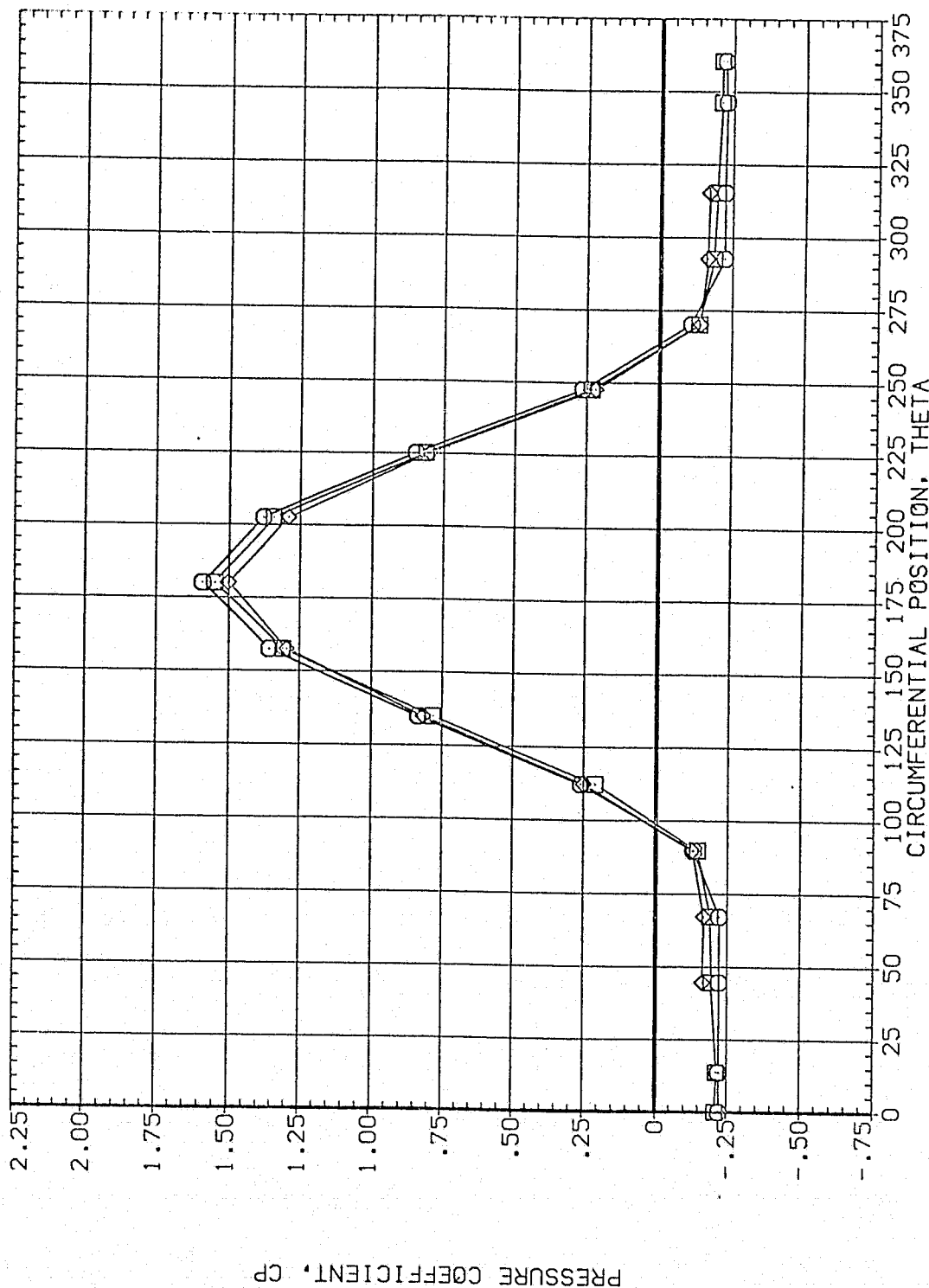


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA069)

SYMBOL

X/LB  
.610  
.735  
.860

ALPHA  
71.880

MACH  
1.960

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI  
80.000  
.000

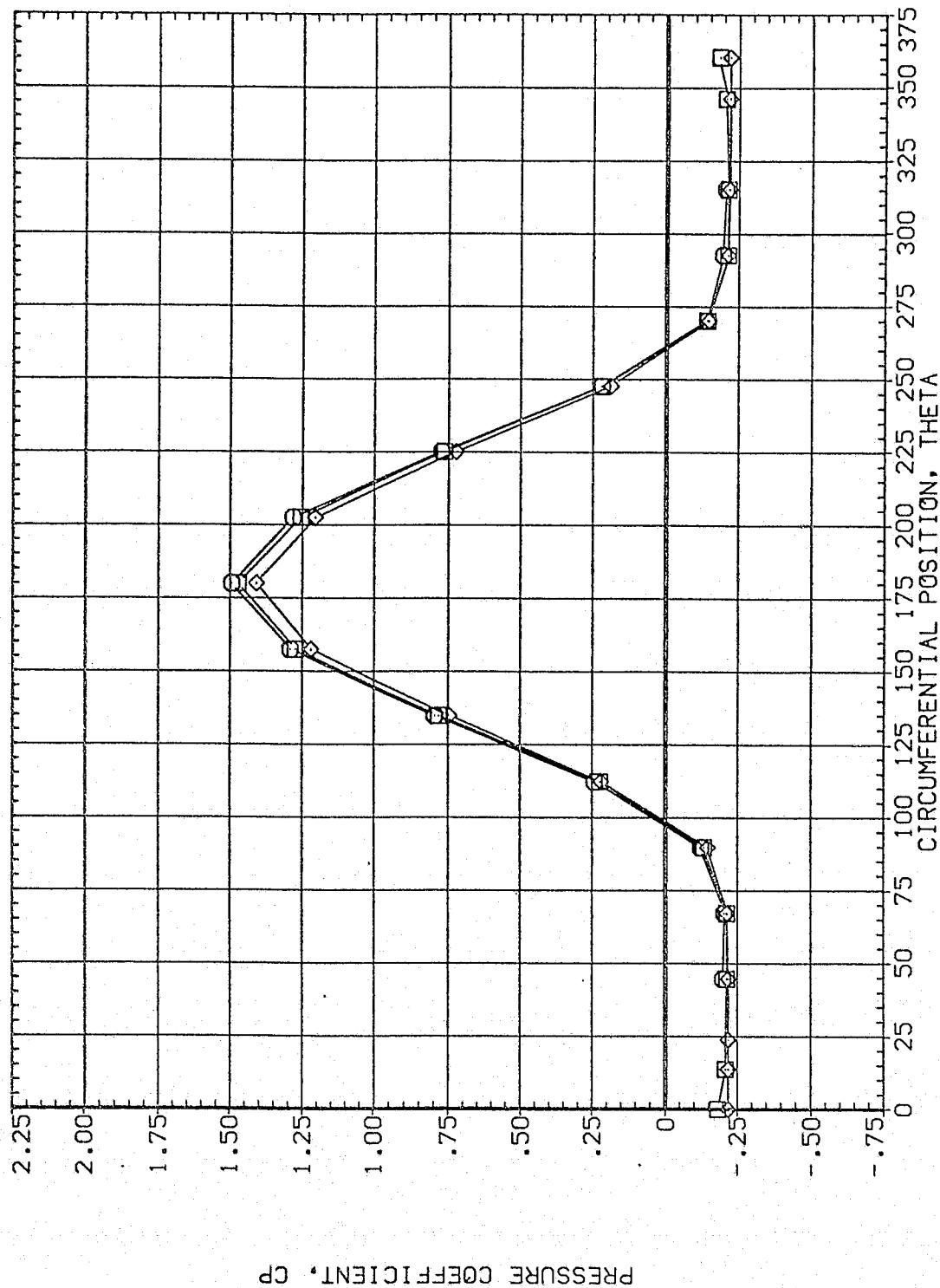


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
 .000 .000 80.000  
 .000 .000 .000  
 .000 .000 .000

BETA  
 MOUNT

SYMBOL X/LB ALPHA MACH  
 .892 71.880 1.960  
 .923  
 .954

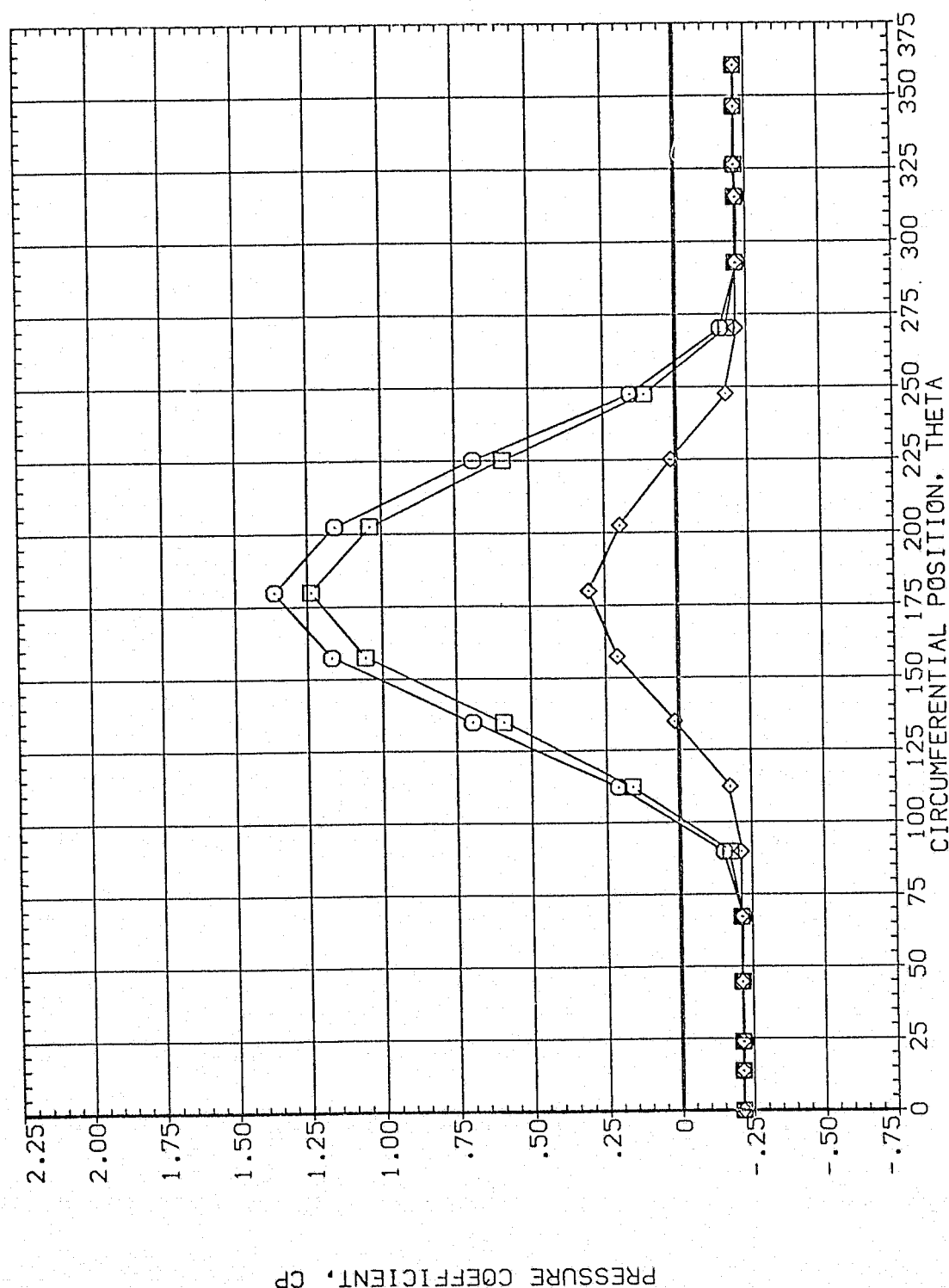


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	74.860	1.960	MOUNT	.000	80.000
□	.108				2.000	.000
◇	.162					

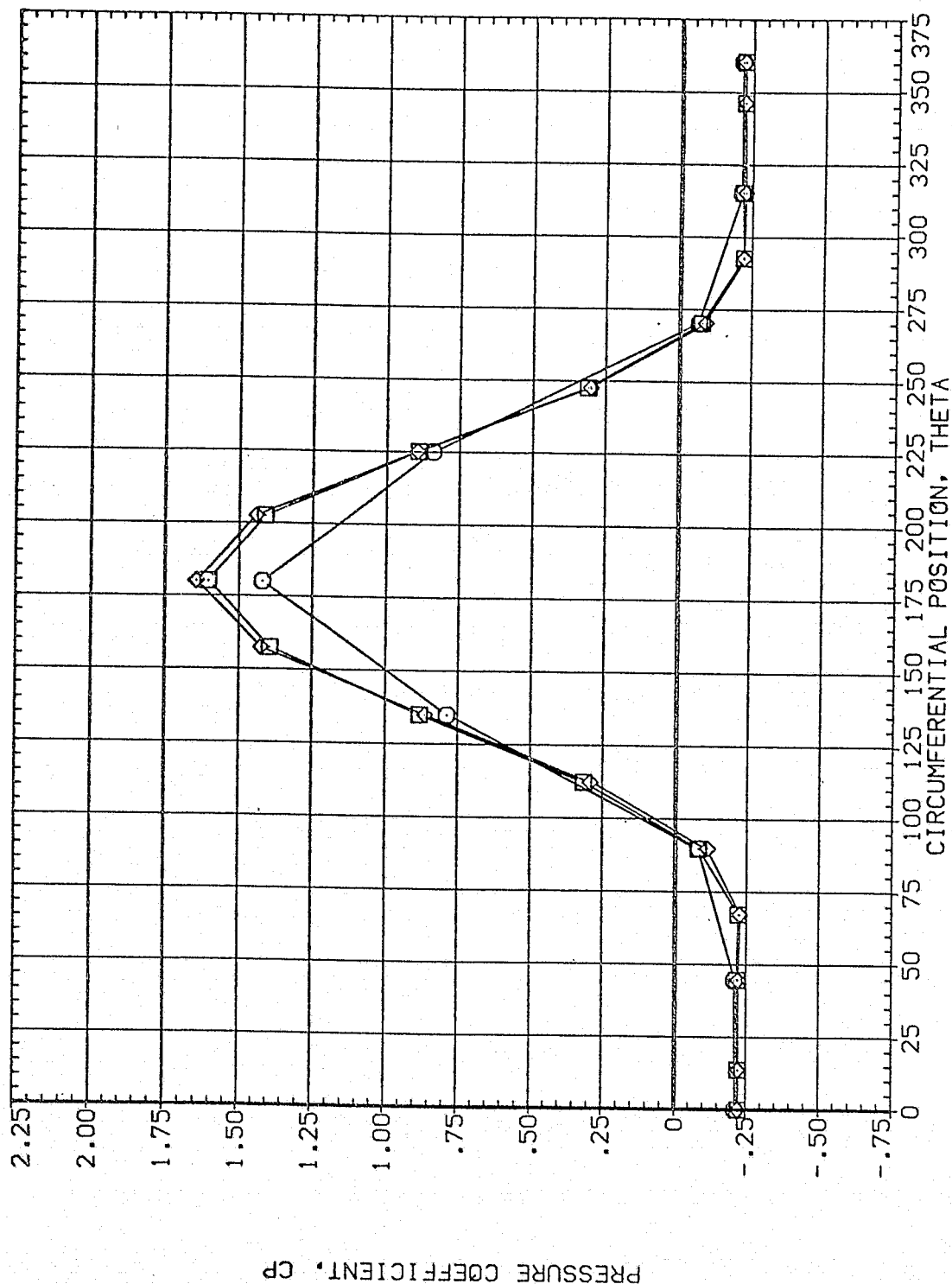


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL X/LB ALPHA MACH  
 □ .216 74.860 1.960  
 ○ .322  
 ◇ .518

PARAMETRIC VALUES  
 BETA .000 OFFSET 80.000  
 MOUNT 2.000 PHI .000

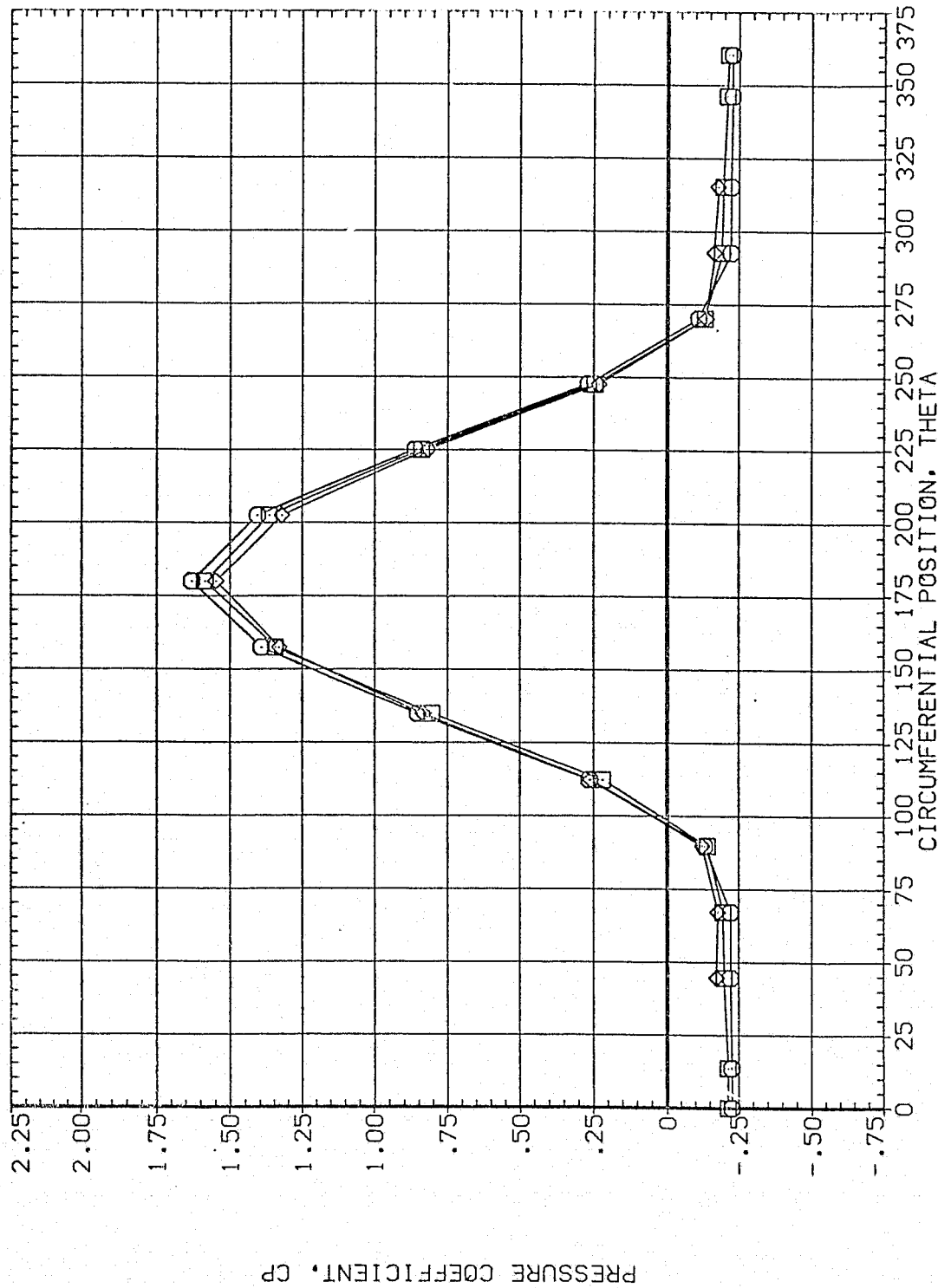


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
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MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL

X/LB  
.610  
.735  
.860

ALPHA  
74.860  
MACH  
1.960

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI  
80.000  
.000

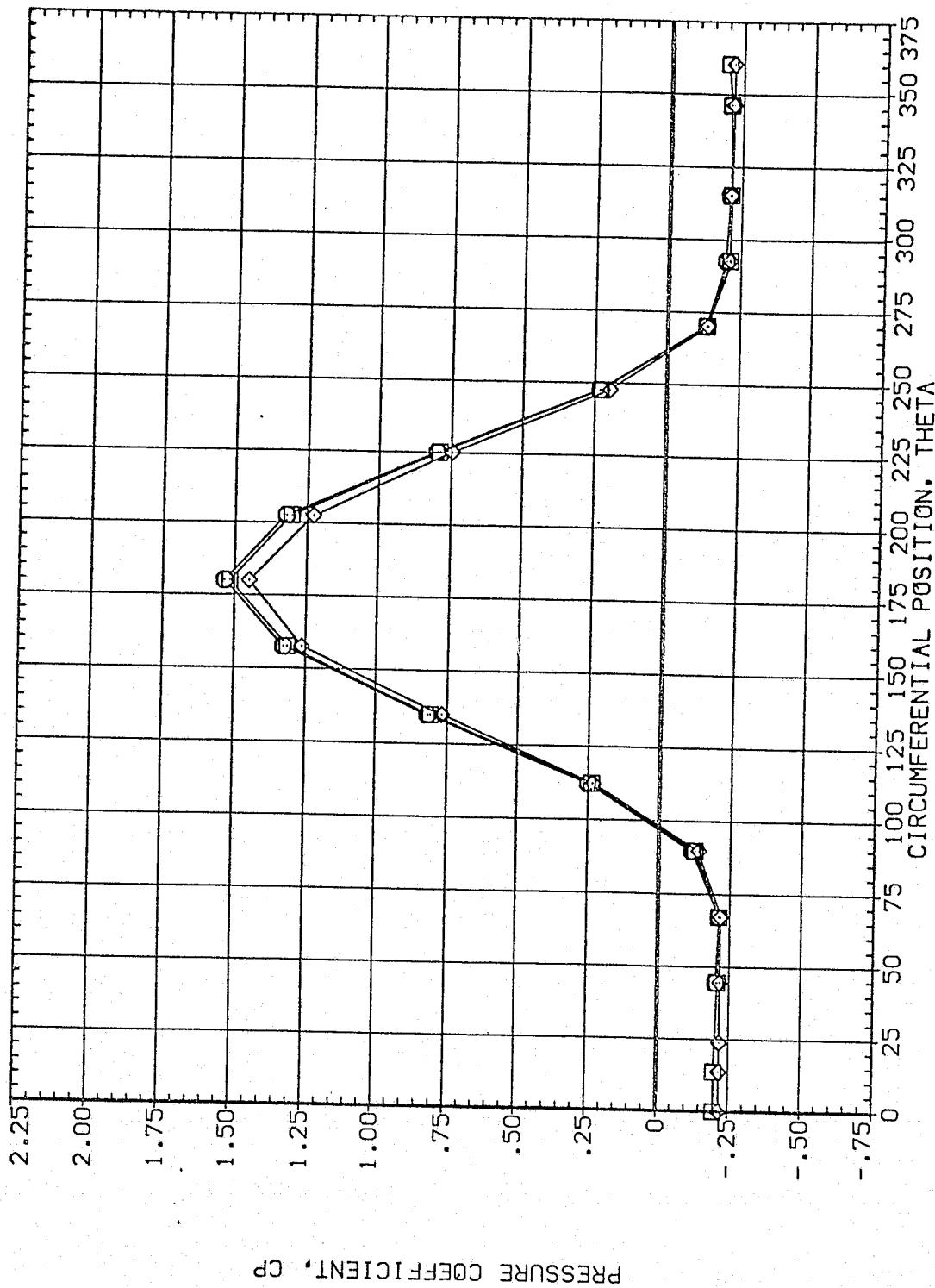


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.892	74.860	1.960	.000	80.000	.000
□	.923			2.000		
◇	.954					

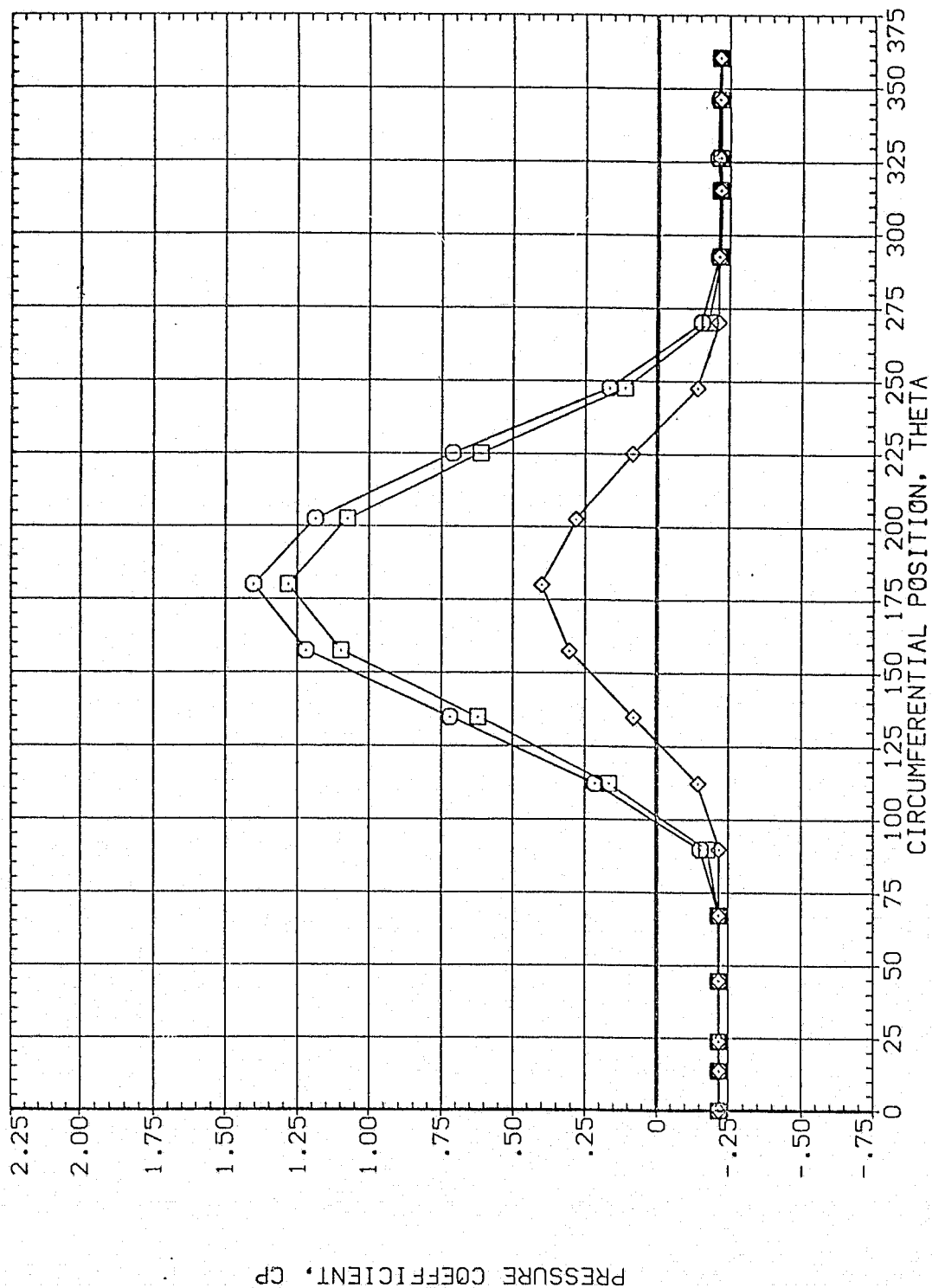


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	.055	77.860	1.960	MOUNT	.000 OFFSET
◇	.108				2.000 PHI
	.162				80.000

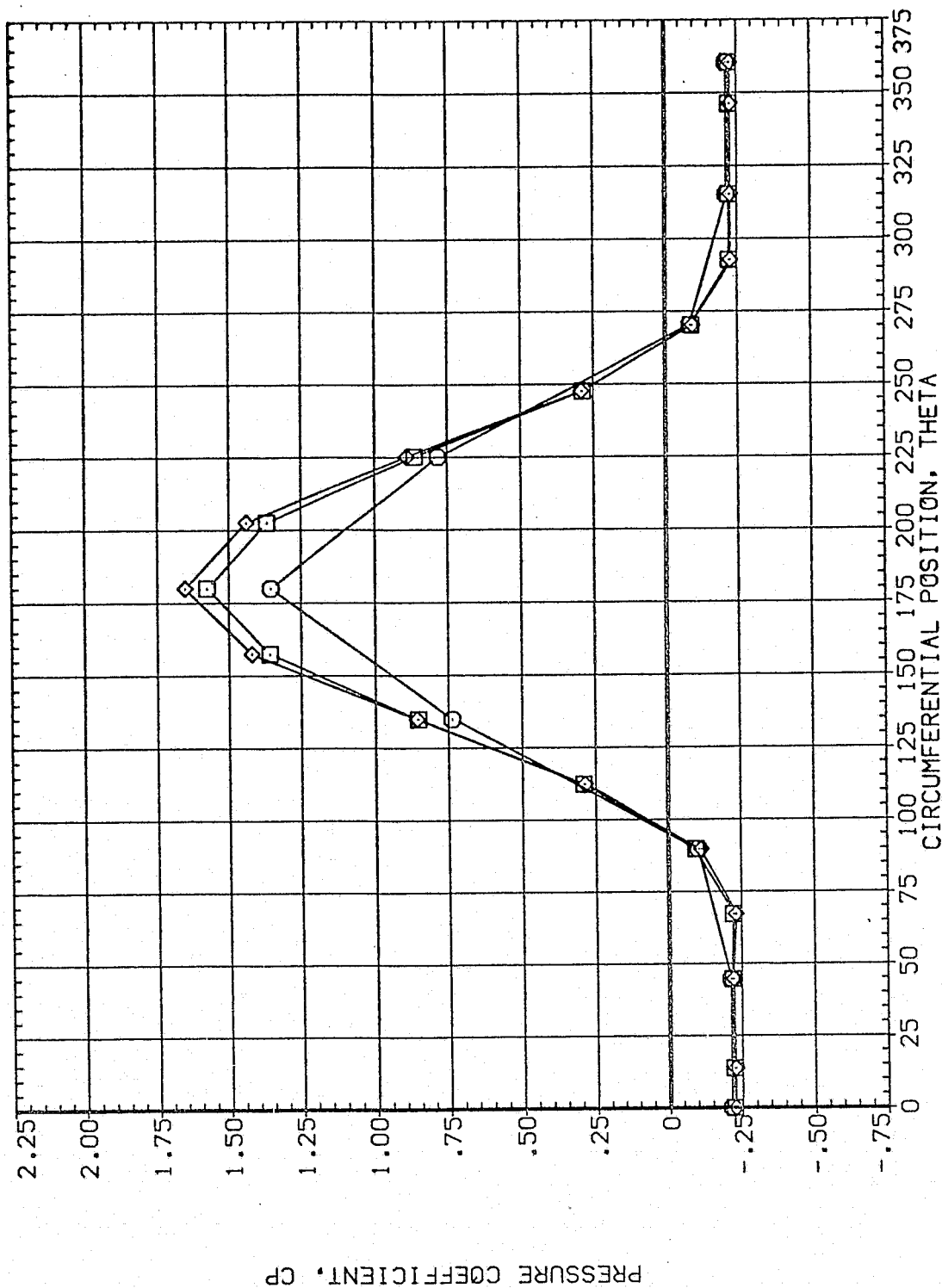


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A071)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	80.000
□	.216	77.860	1.960	HOUNT	2.000	PHI
◇	.322					.000
◇	.518					

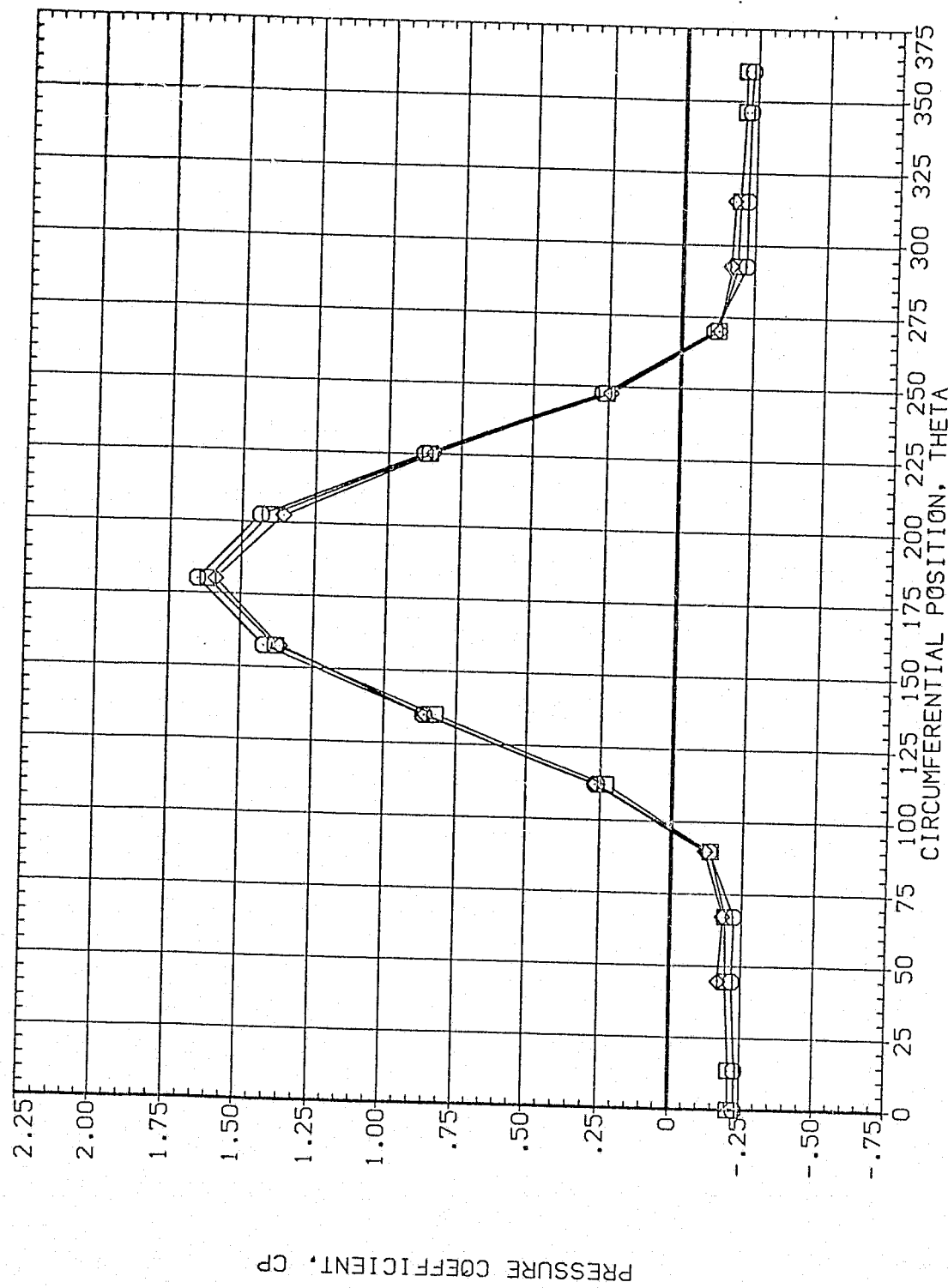


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	77.860	1.960	MOUNT	.000	80.000
□	.735				2.000	
◇	.860					.000

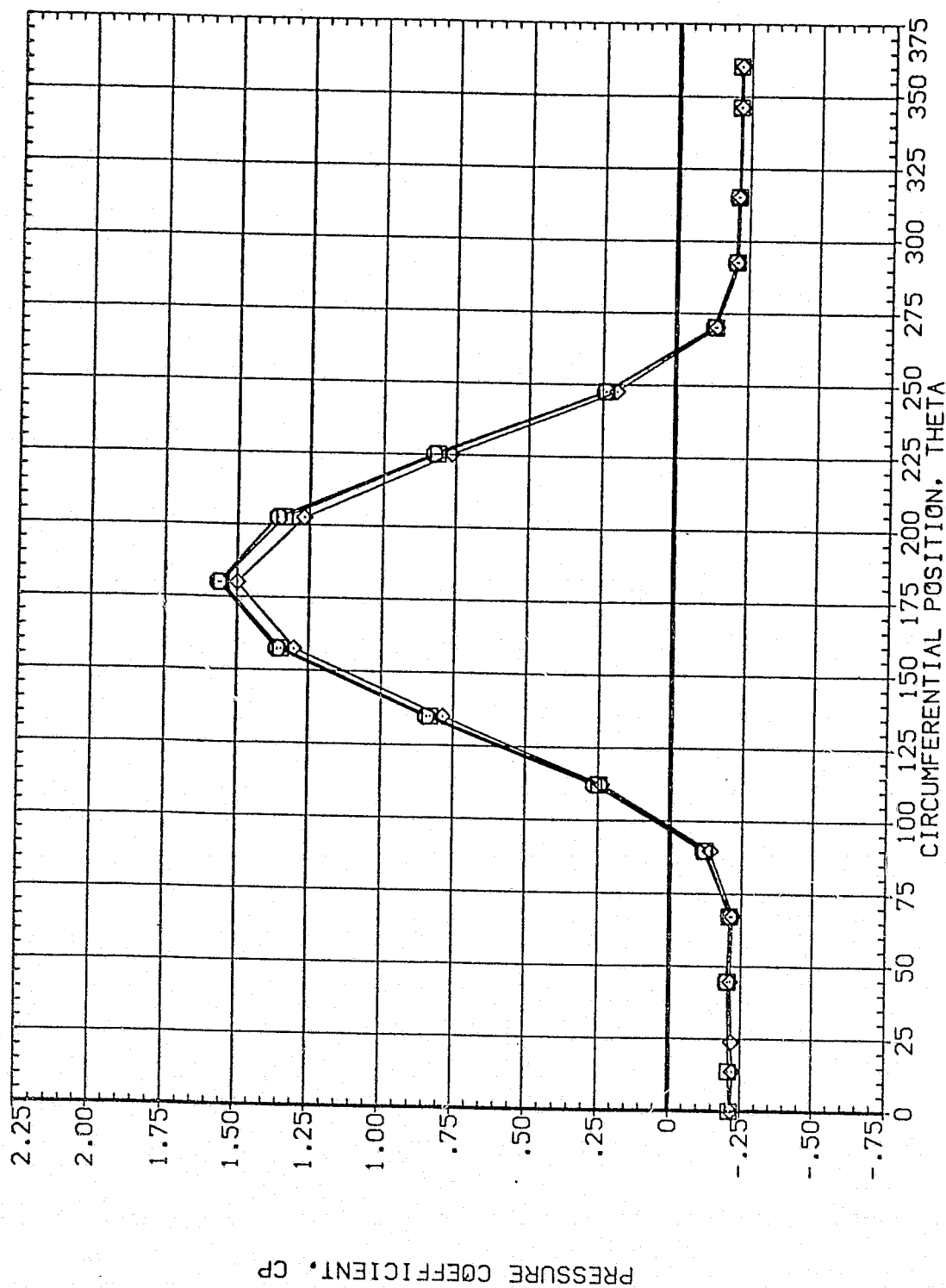


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
OFFSET PHI .000  
80.000  
.000

SYMBOL X/LB ALPHA MACH  
□ .892 77.860 1.960  
□ .923  
◇ .954

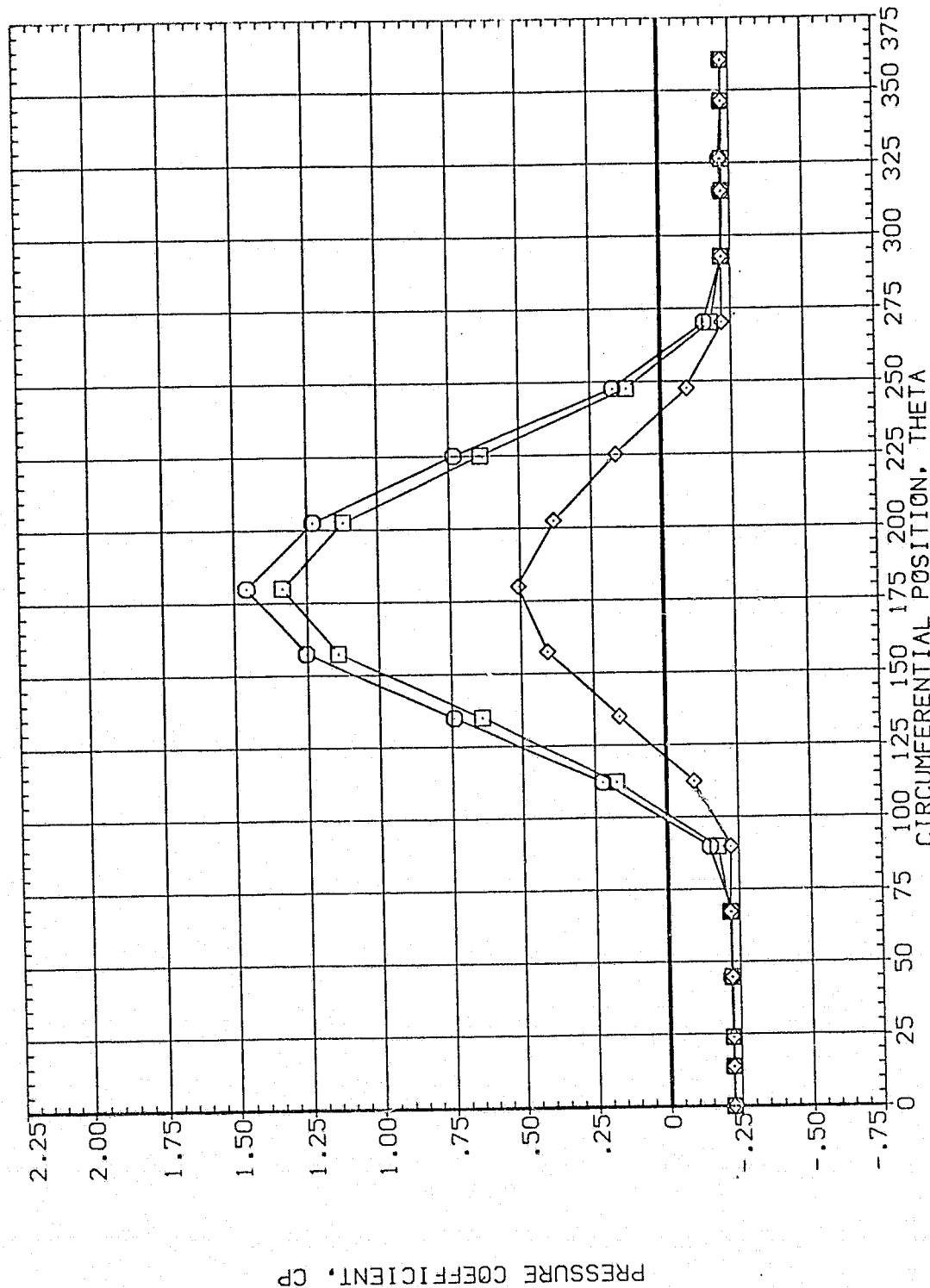


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2484

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	.055	79.930	1.970	HOUNT	PHI	.000
□	.108					
◇	.162					

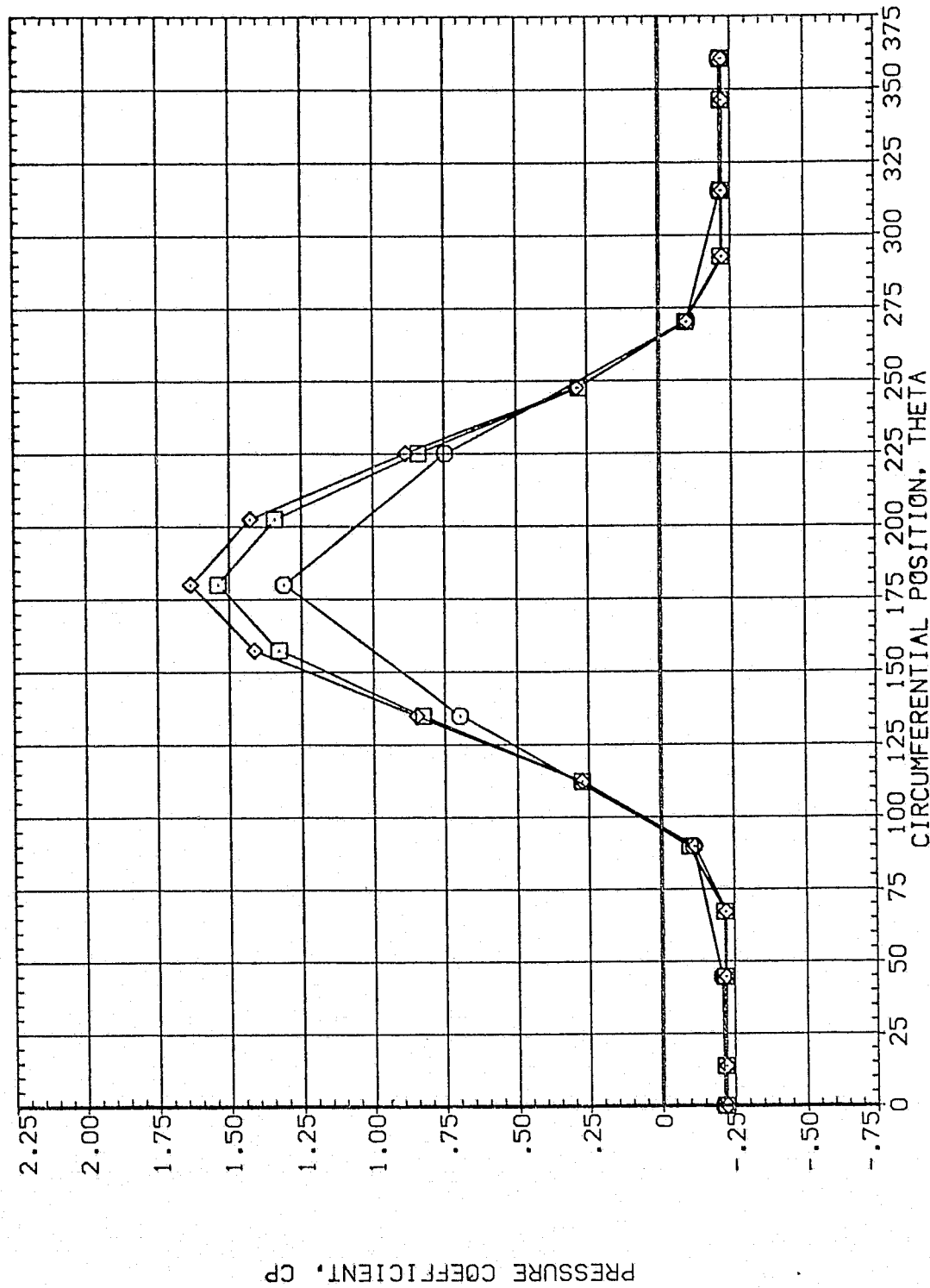


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL  
 ○  
 □  
 ◇

X/LB .216  
 .322  
 .518

ALPHA  
 79.930

MACH  
 1.970

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 .000  
 2.000  
 PHI  
 90.000  
 .000

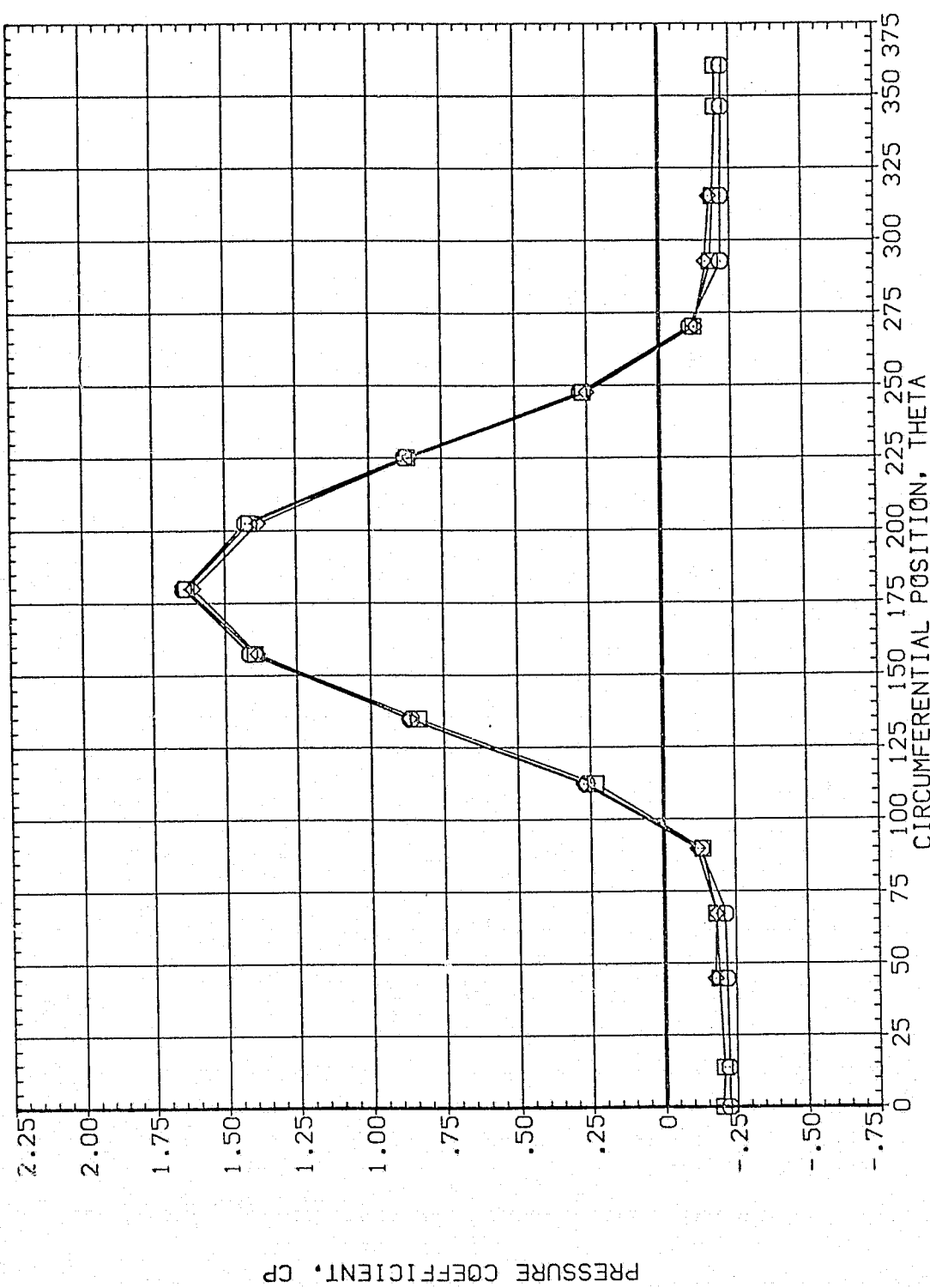


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	79.930	1.970	HOUNT	.000	90.000
□	.735				2.000	
◇	.860					.000

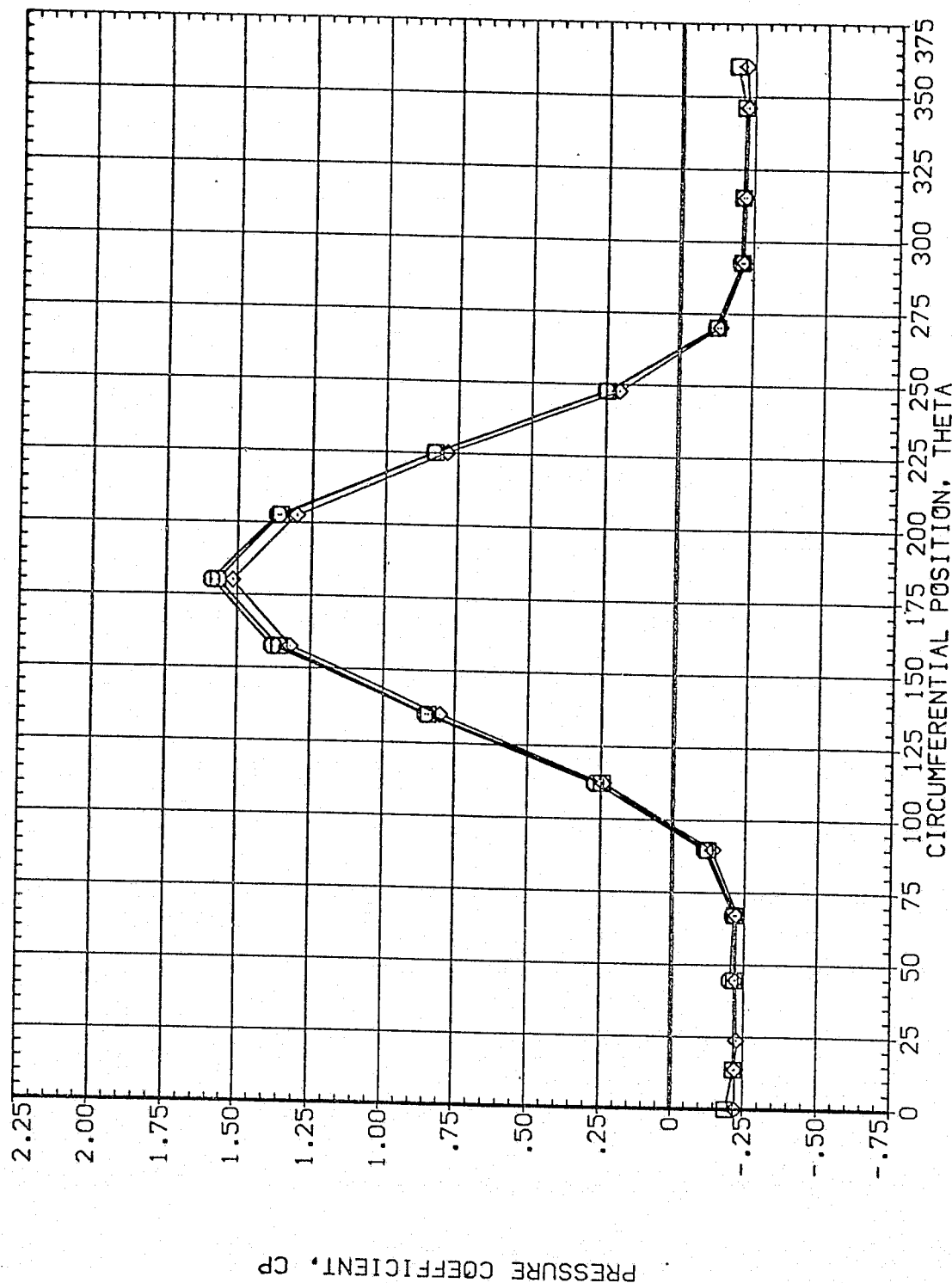


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

SYMBOL X/LB ALPHA MACH  
 .892 79.930 1.970  
 .923  
 .954

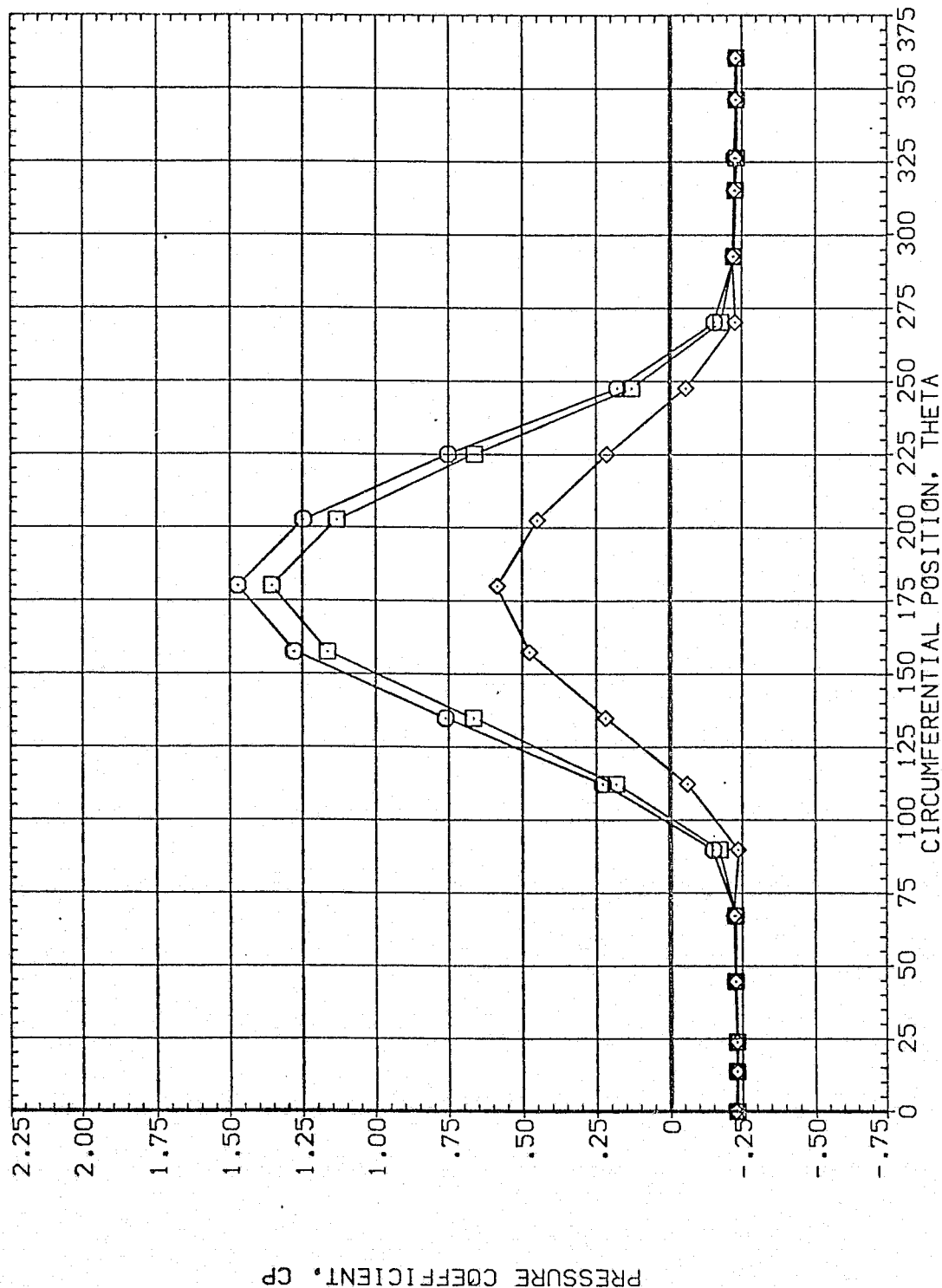


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.055	81.830	1.970	MOUNT	.000
□	.108				OFFSET
◇	.162				PHI
					90.000
					.000

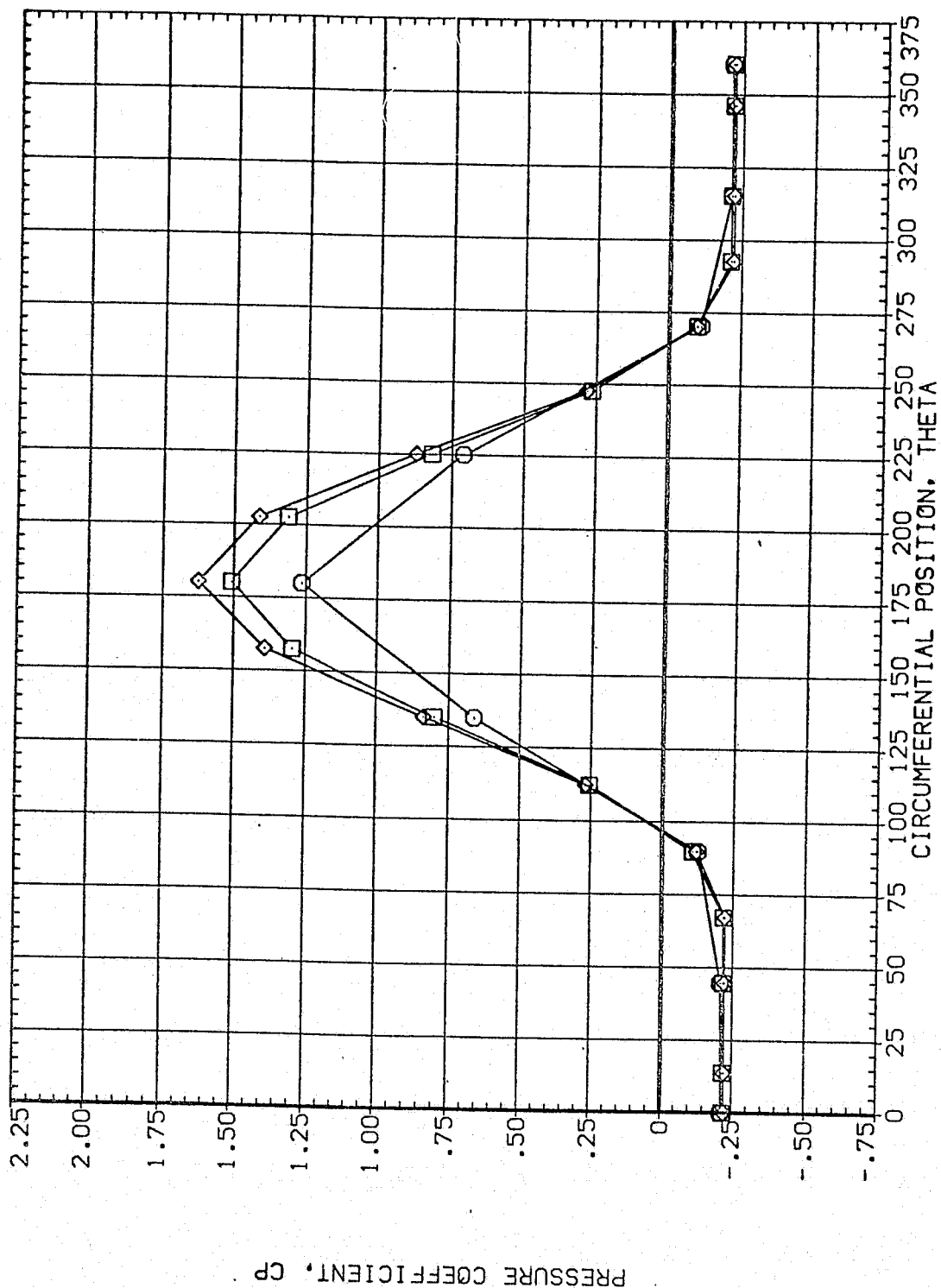


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

(P1A073)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK. T2

SYMBOL  
◇  
□  
○

X/LB .216  
.322  
.518

ALPHA 81.830

MACH 1.970

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000

OFFSET  
PHI

90.000  
.000

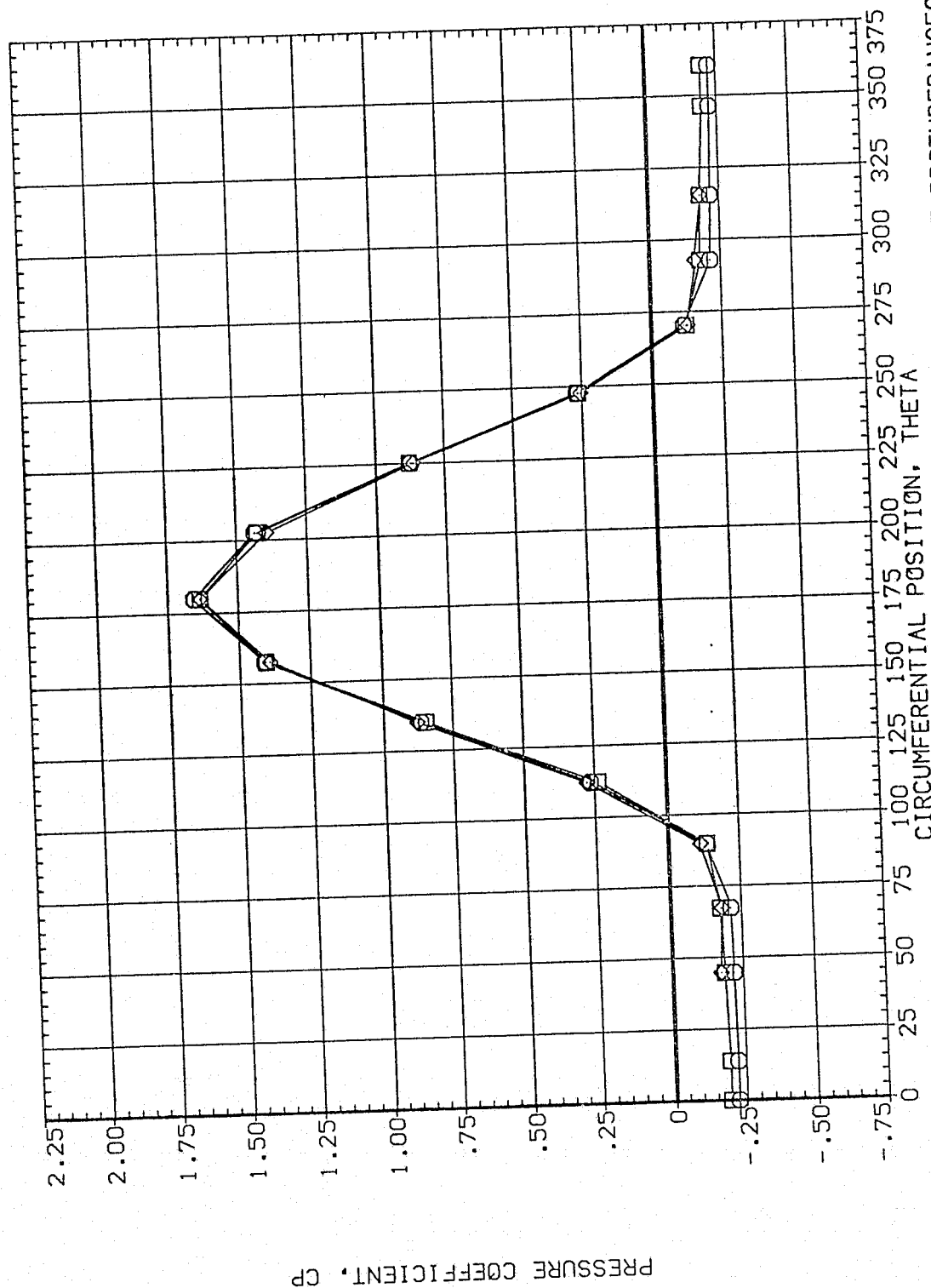


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	81.830	1.970	.000	.000	.000
□	.735			2.000		
◇	.860					

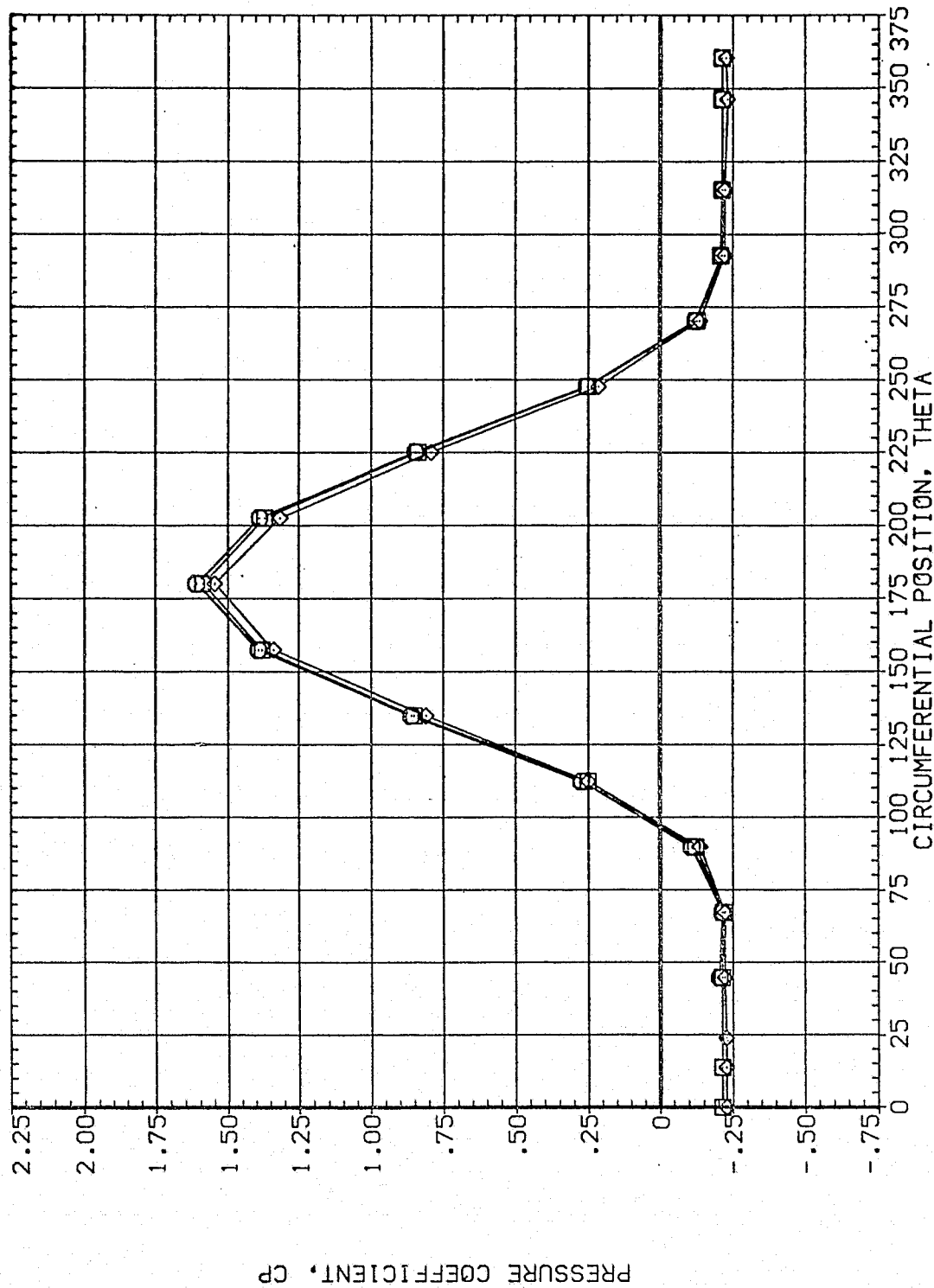


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	81.830	1.970	MOUNT	.000 OFFSET
□	.923				2.000 PHI
◇	.954				90.000

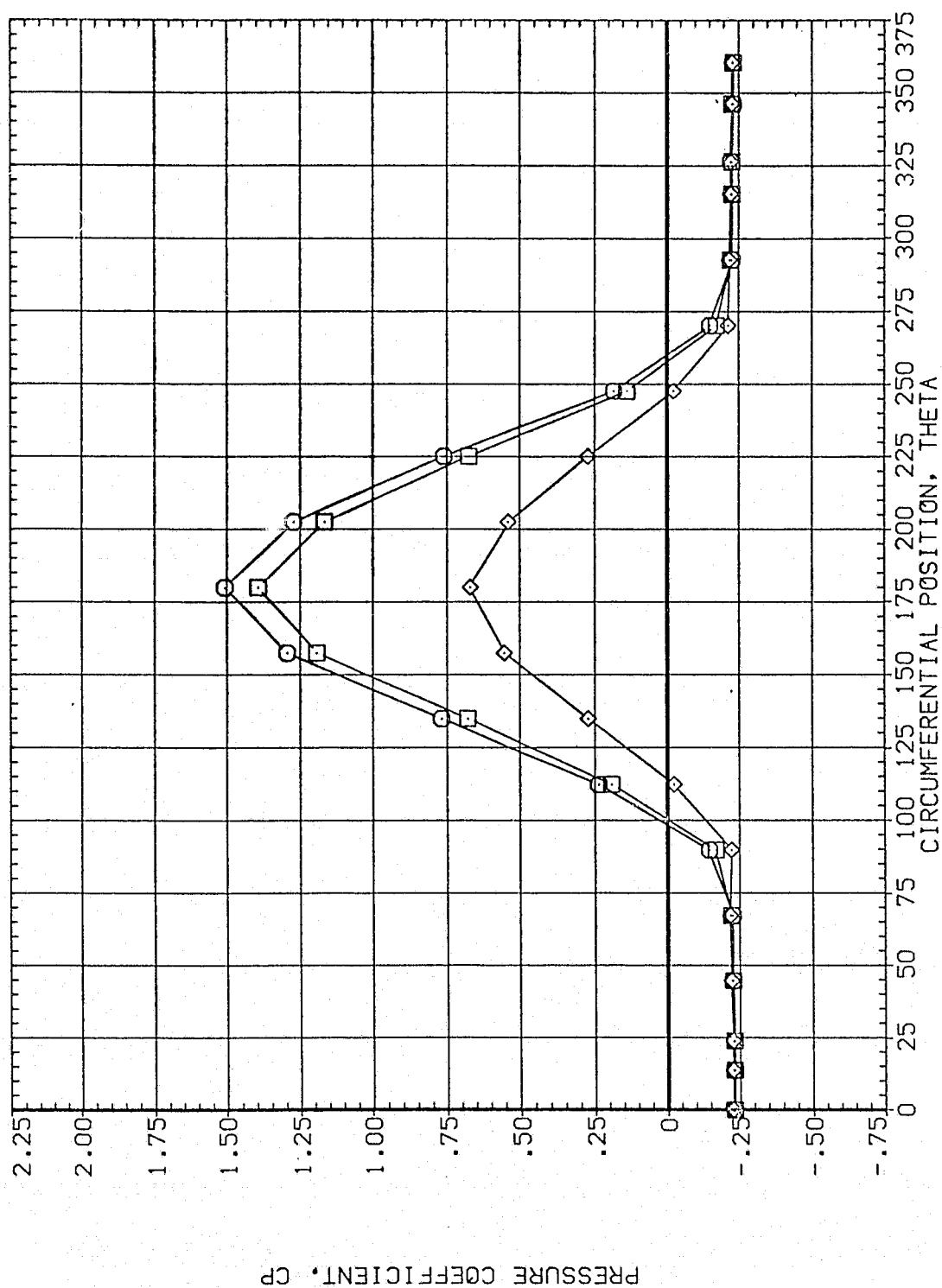


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A074)

SYMBOL X/LB ALPHA MACH  
 □ .055 84.830 1.970  
 ◇ .108 .162

PARAMETRIC VALUES  
 BETA .000 OFFSET 90.000  
 MOUNT 2.000 PHI .000

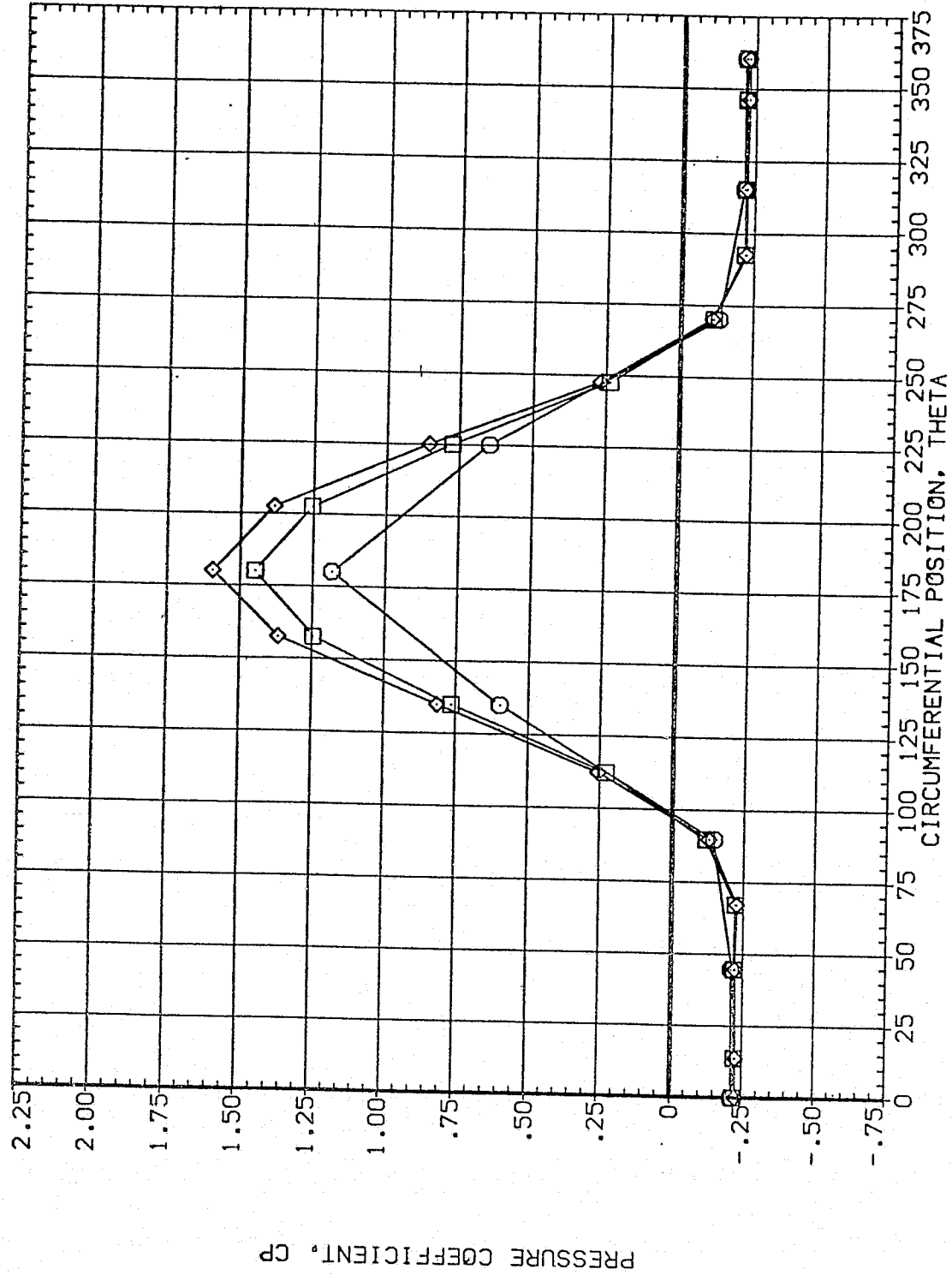


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(PIA074)

SYMBOL

X/LB  
.216  
.322  
.518

ALPHA  
84.830  
MACH  
1.970

BETA  
MOUNT  
PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI  
90.000  
.000

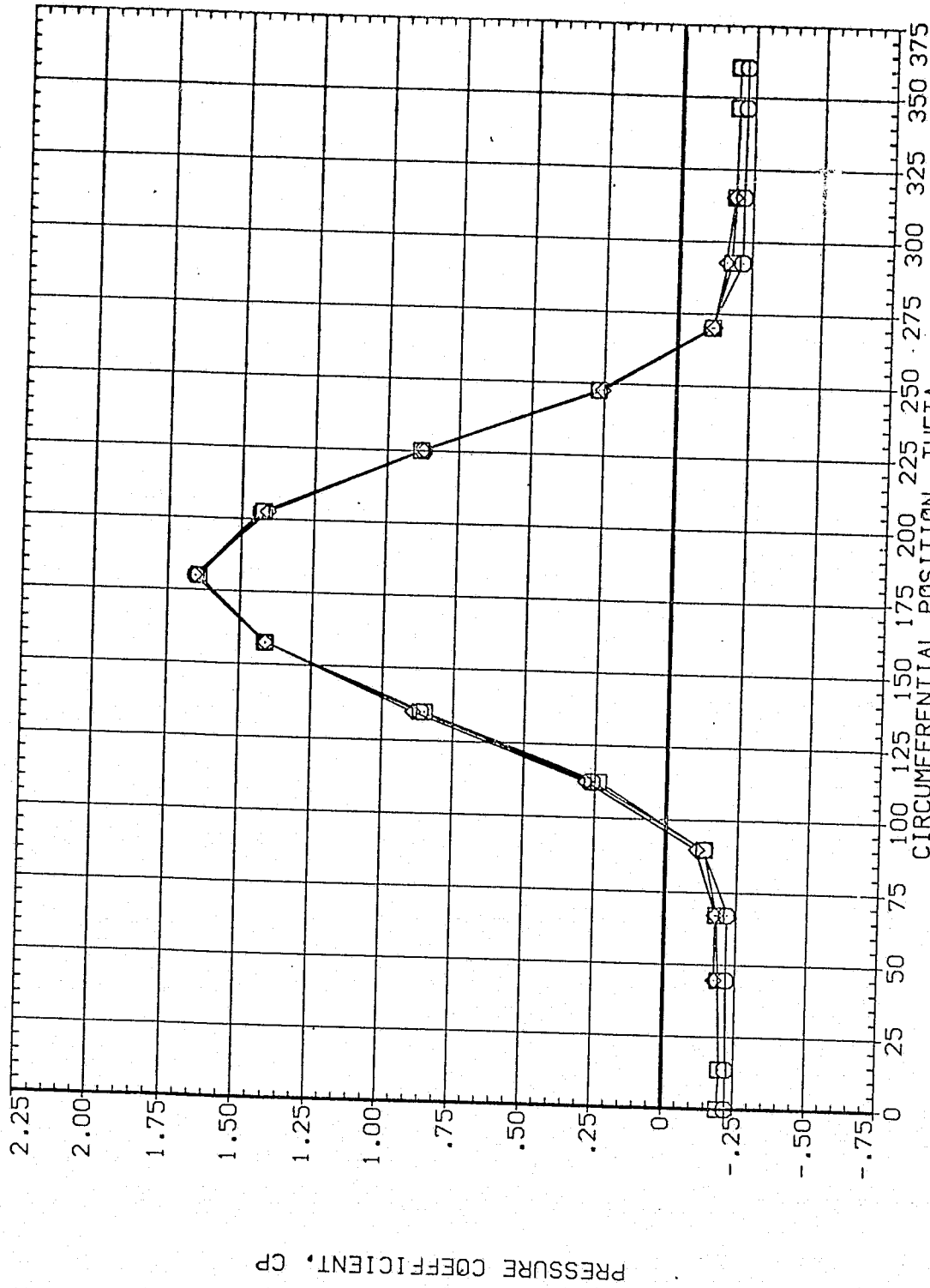


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL

X/LB

ALPHA

MACH

1.970

84.830

.610

.735

.860

PARAMETRIC VALUES

BETA  
MOUNT

2.000

OFFSET  
PHI

90.000  
.000

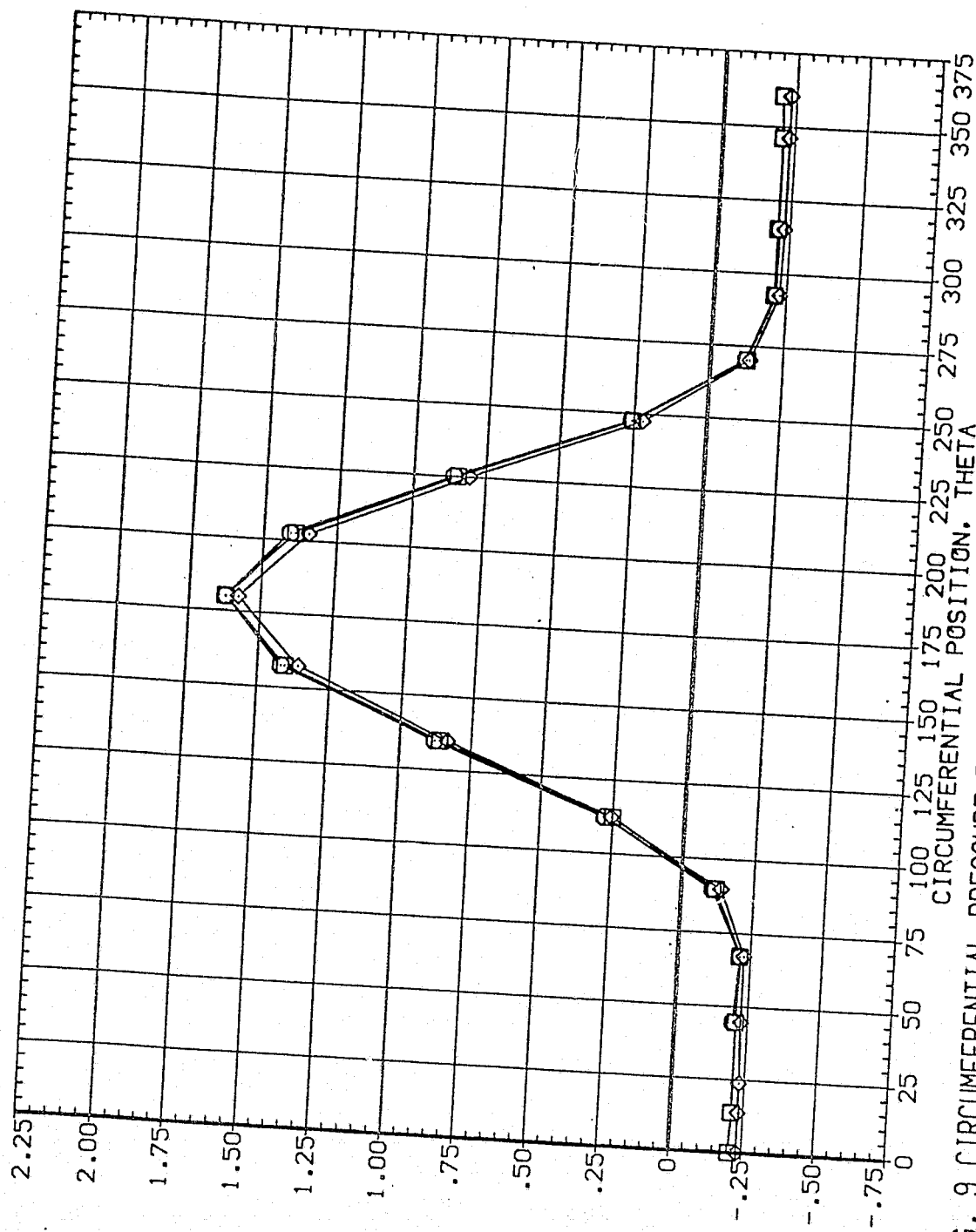


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL X/LB ALPHA MACH  
 ○ .892 84.830 1.970  
 □ .923  
 ◇ .954

PARAMETRIC VALUES  
 BETA .000 OFFSET 90.000  
 MOUNT 2.000 PHI .000

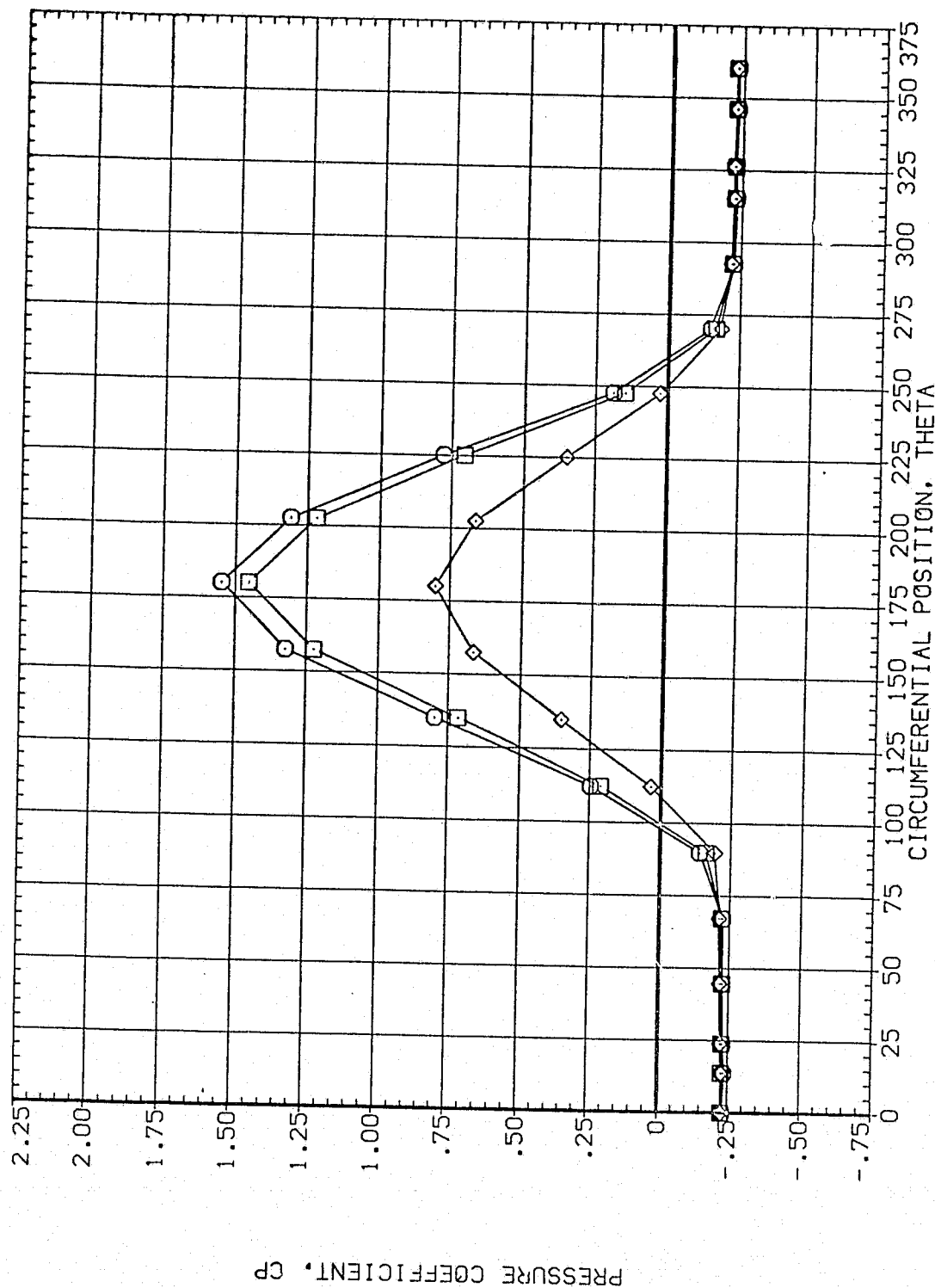


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.055	87.830	1.970	MOUNT	.000
□	.108			OFFSET	.000
◇	.162			PHI	.000

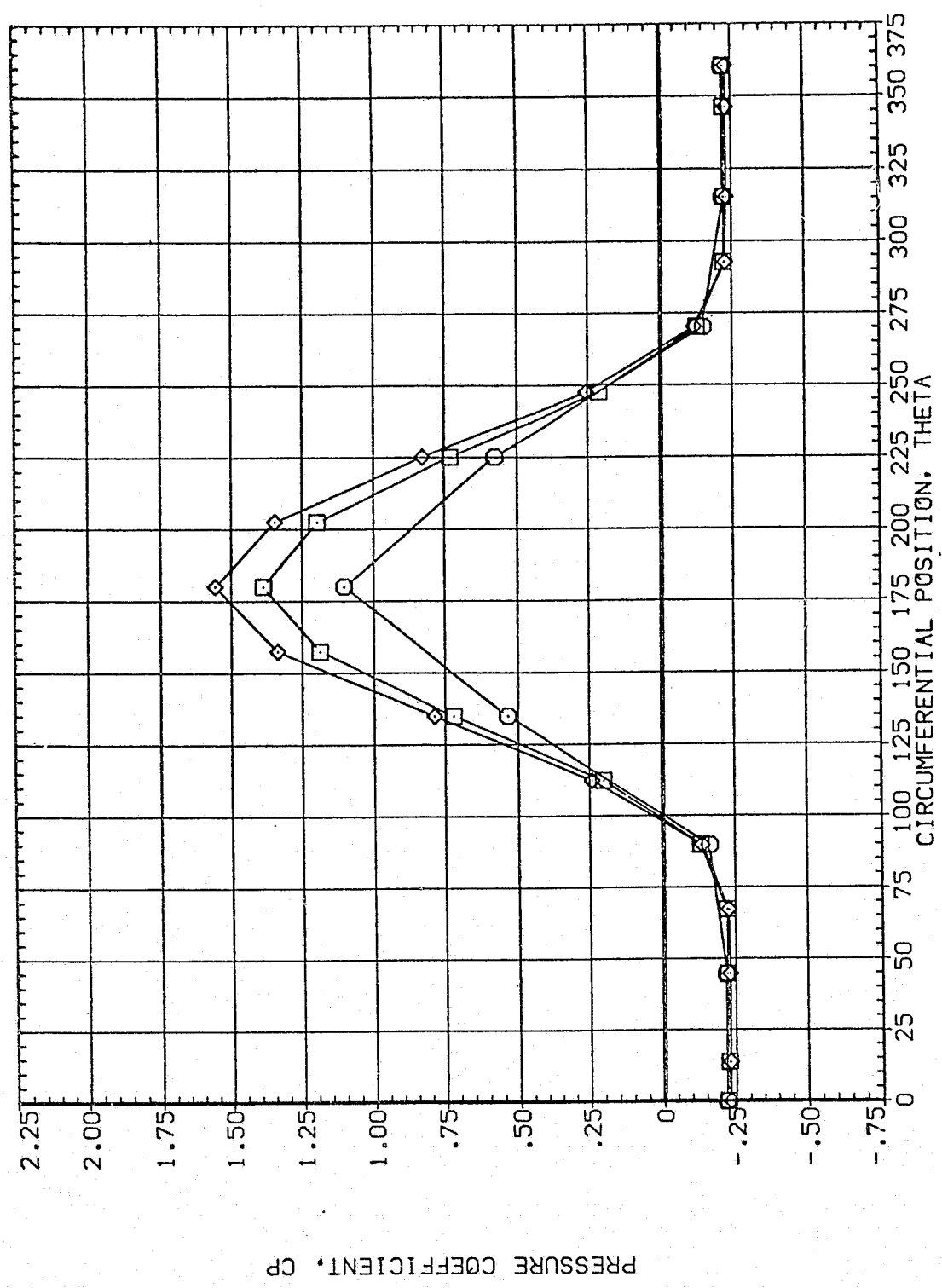


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	.216	87.830	1.970	MOUNT	2.000	PHI
□	.322					.000
◇	.518					

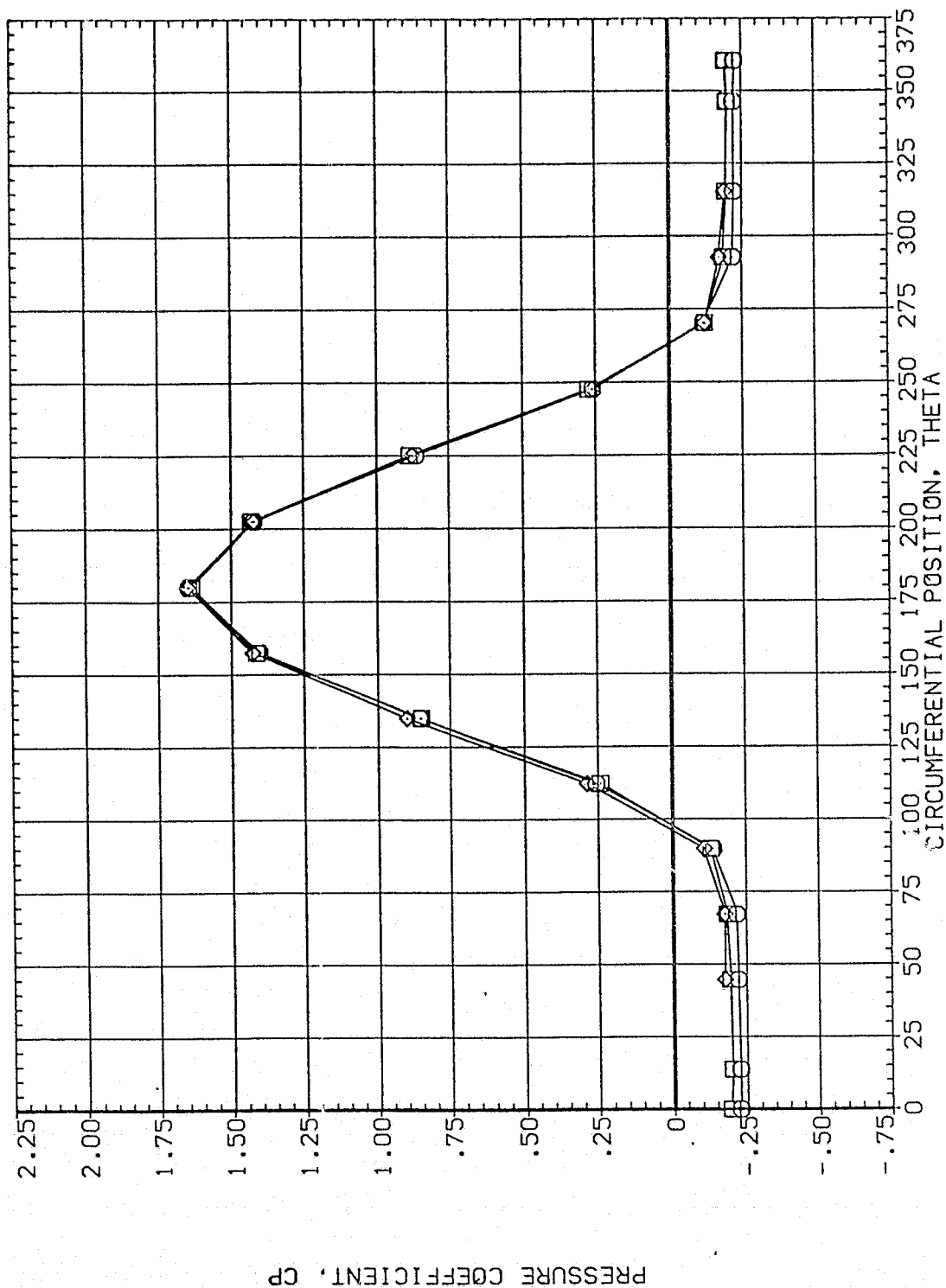


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	87.830	1.970	MOUNT	.000	.000
□	.735				2.000	
◇	.860					

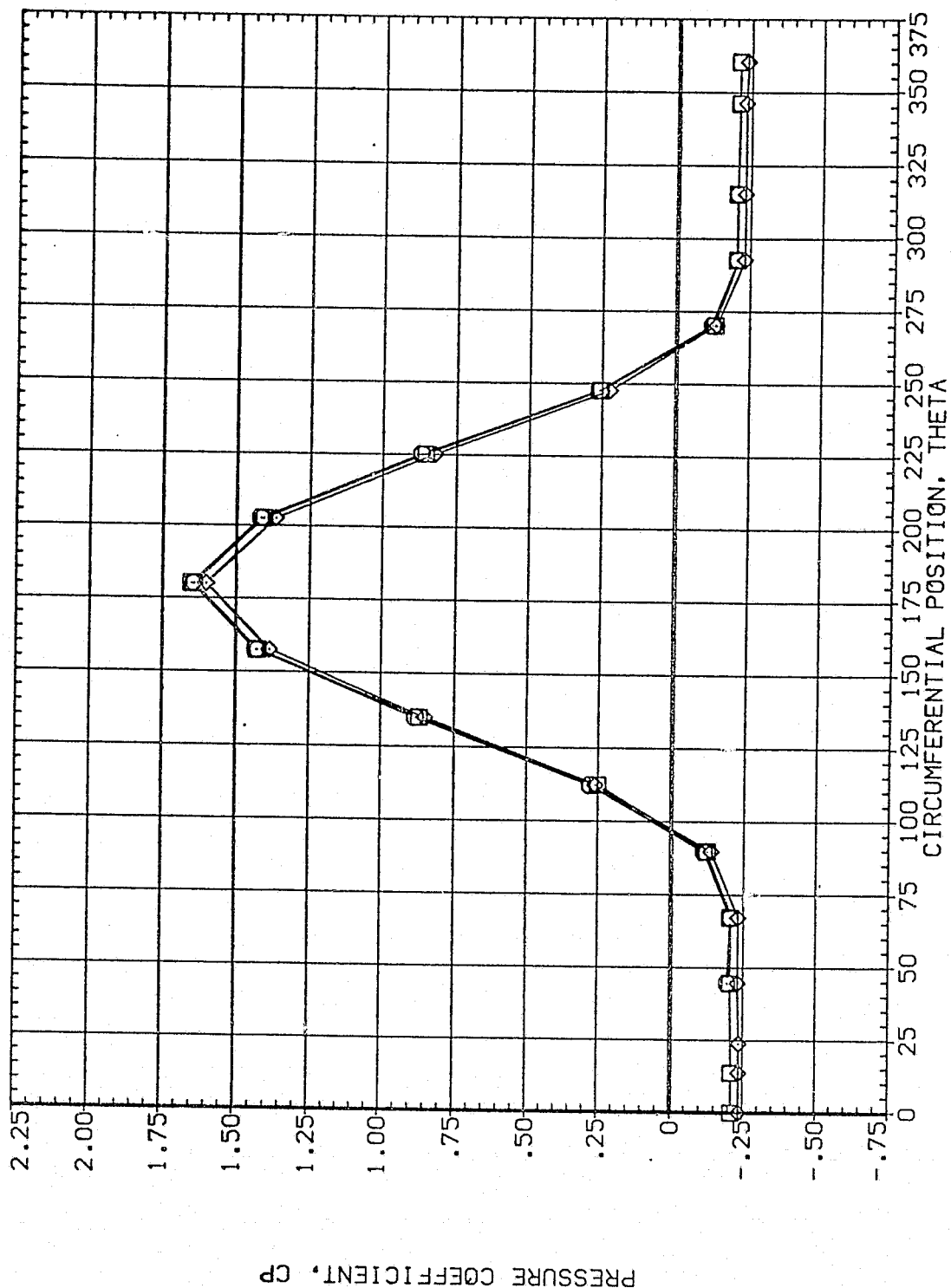


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAHETRIC VALUES
○	.892	87.830	1.970	MOUNT	.000 OFFSET
□	.923				2.000 PHI
◇	.954				90.000

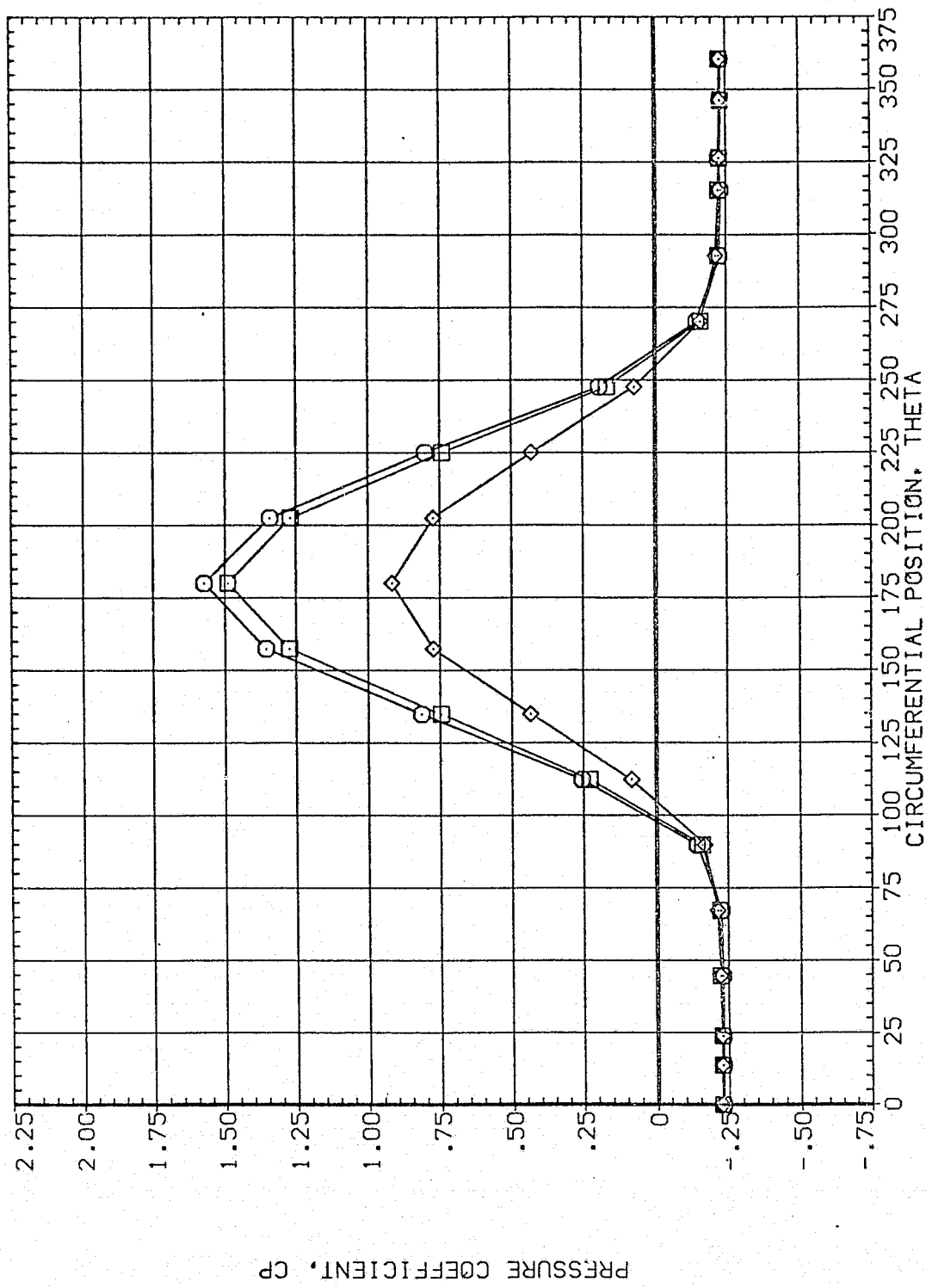


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2. (P1A076)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
◇	.055	89.830	1.960	HOUNT	2.000	.000
□	.108					
◇	.162					

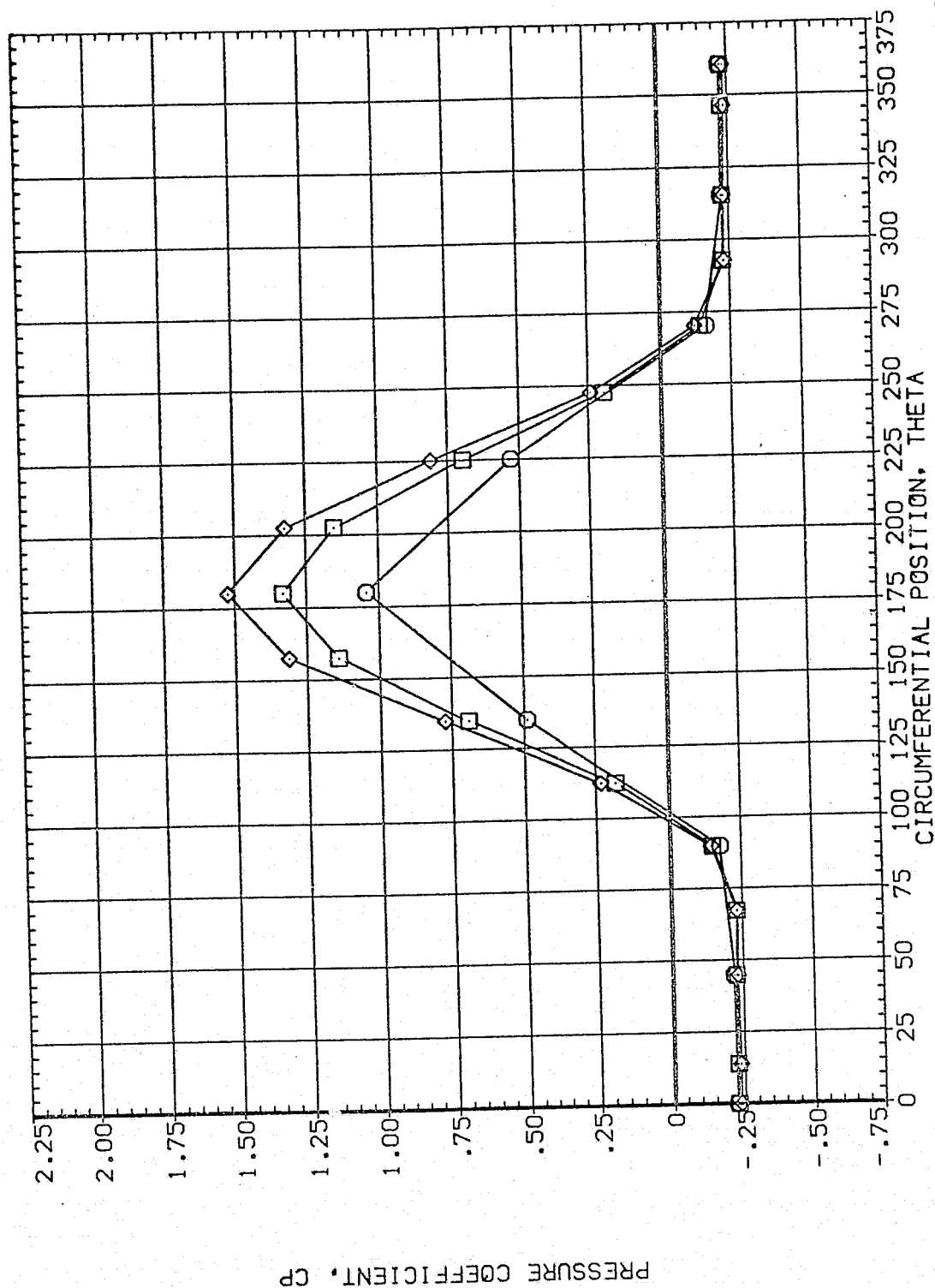


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL  
□  
◇

X/LB .216  
.322  
.518  
ALPHA 89.830  
MACH 1.960

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
OFFSET 90.000  
PHI .000

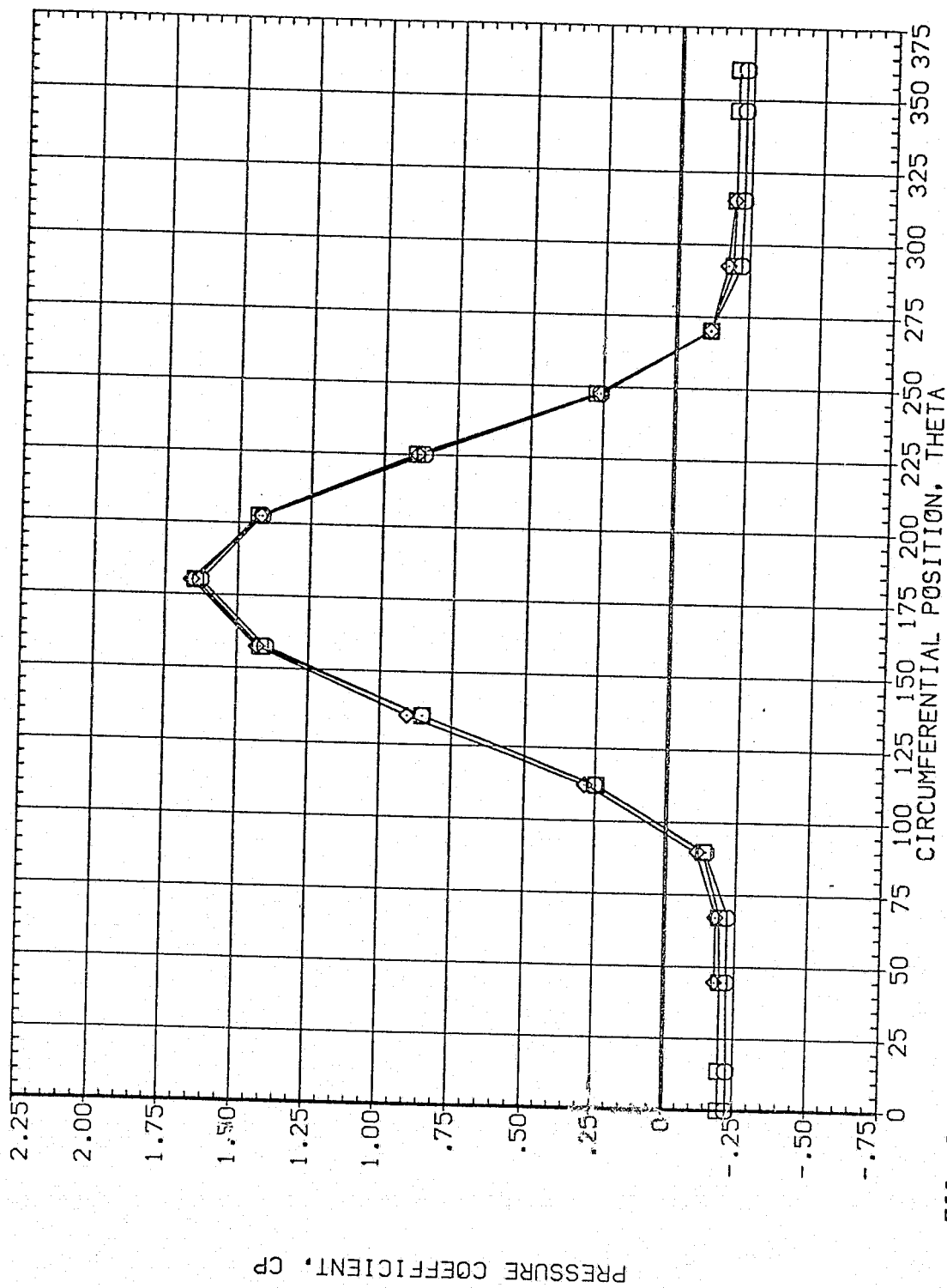


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	89.830	1.960	.000	.000	.000
□	.735			2.000		
◇	.860					

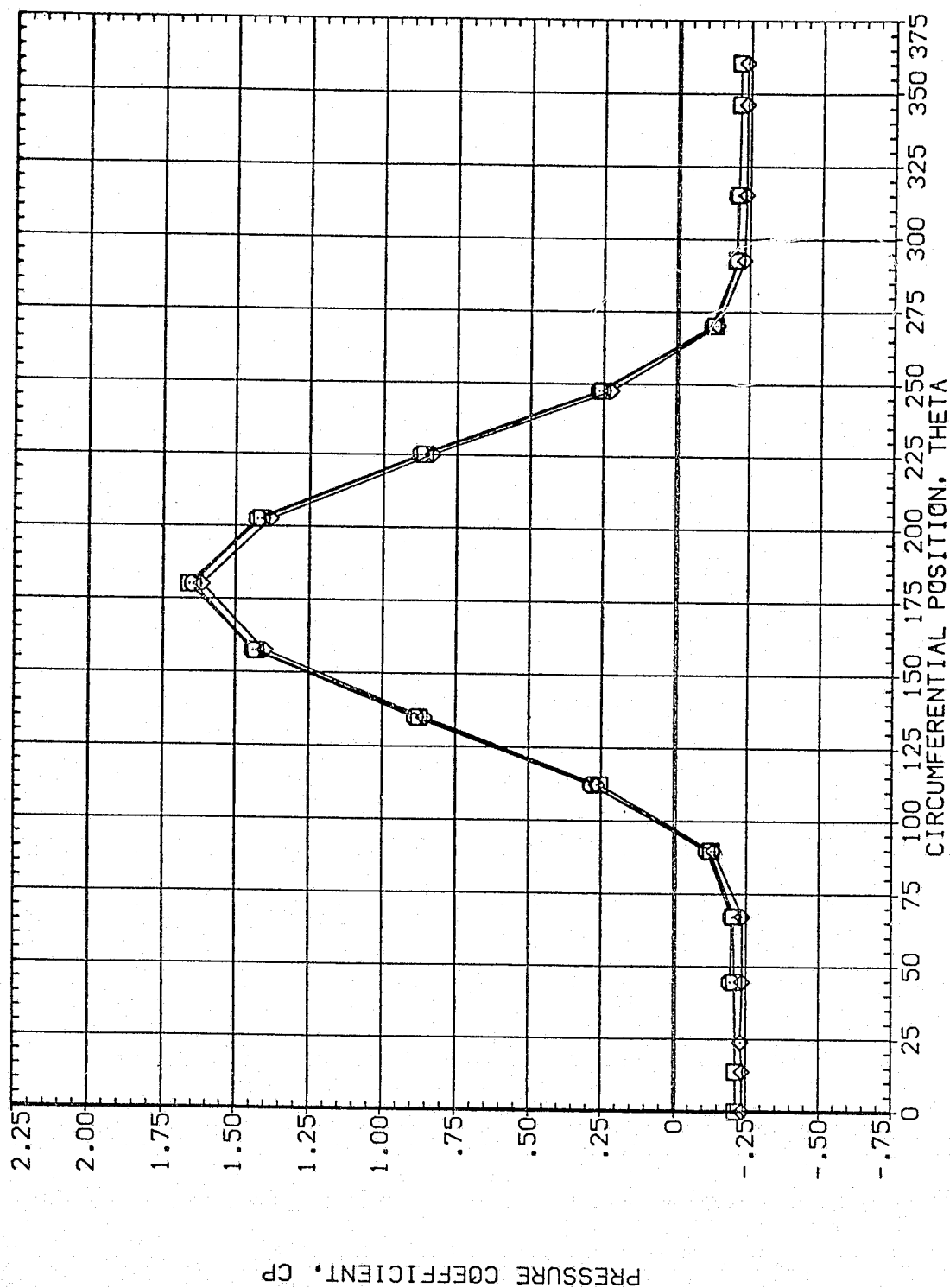


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	89.830	1.960	MOUNT	.000 OFFSE"
□	.923				2.000 PHI
◇	.954				.000

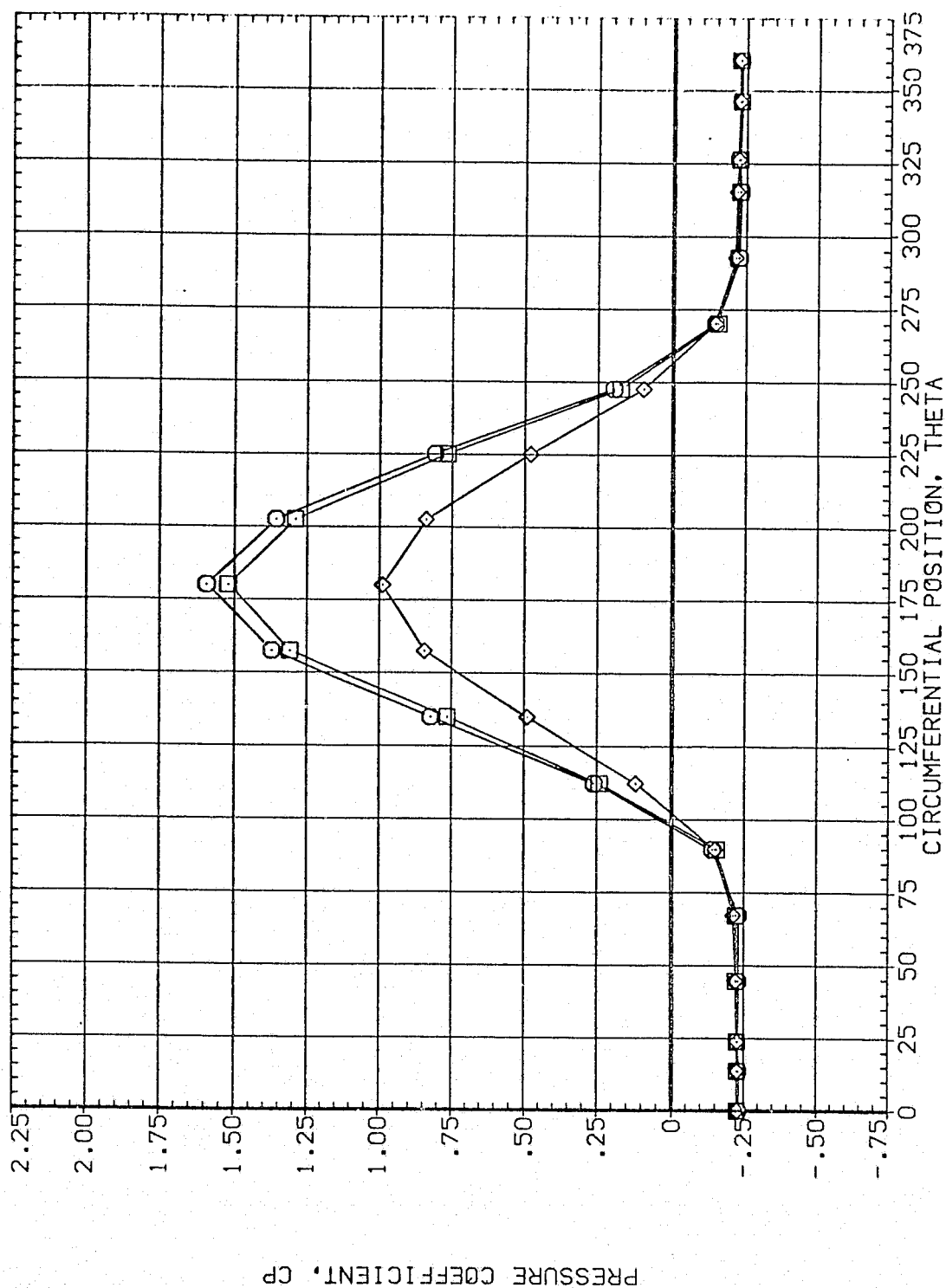


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL X/LB ALPHA MACH  
 ○ .055 91.830 1.960  
 □ .108  
 ◇ .162

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

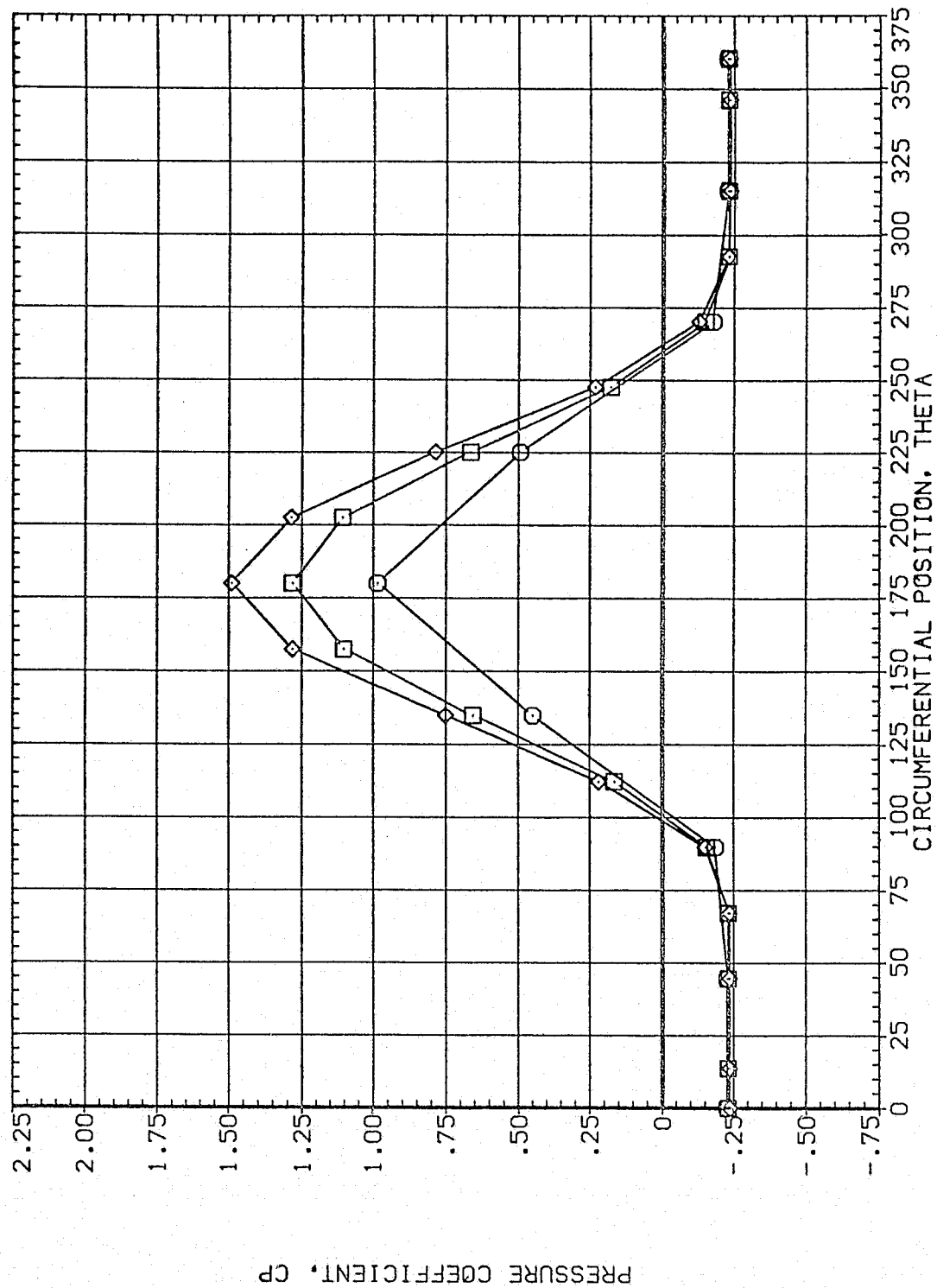


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

(P1A077)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

PARAMETRIC VALUES  
BETA  
MOUNT

90.000  
OFFSET  
PHI

MACH  
1.960

ALPHA  
91.830

X/LB  
.216  
.322  
.518

SYMBOL  
□  
◇

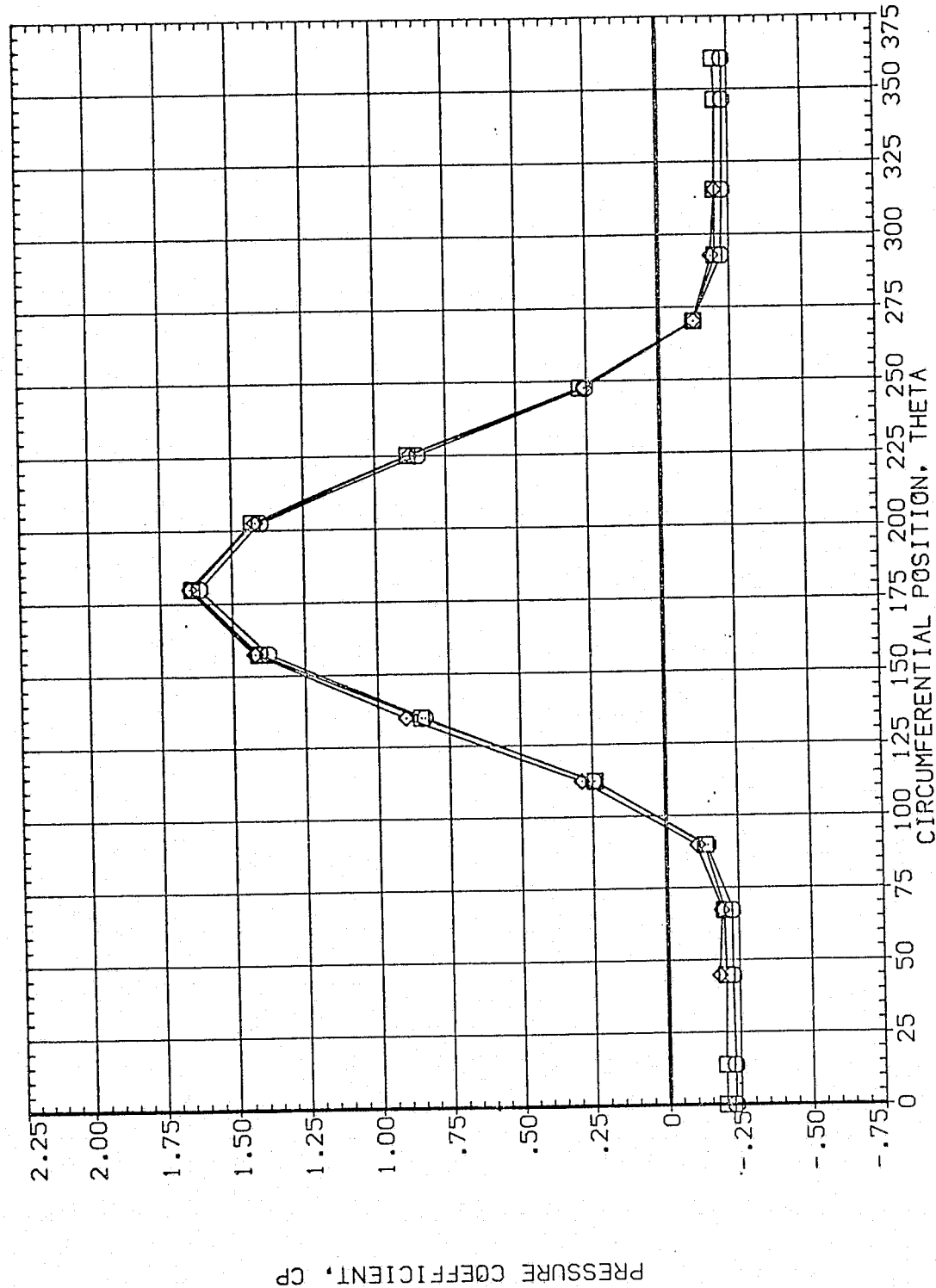


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL X/LB ALPHA MACH  
 ○ .610 91.830 1.960  
 □ .735  
 ◇ .860

PARAMETRIC VALUES  
 BETA .000 OFFSET 90.000  
 MOUNT 2.000 PHI .000

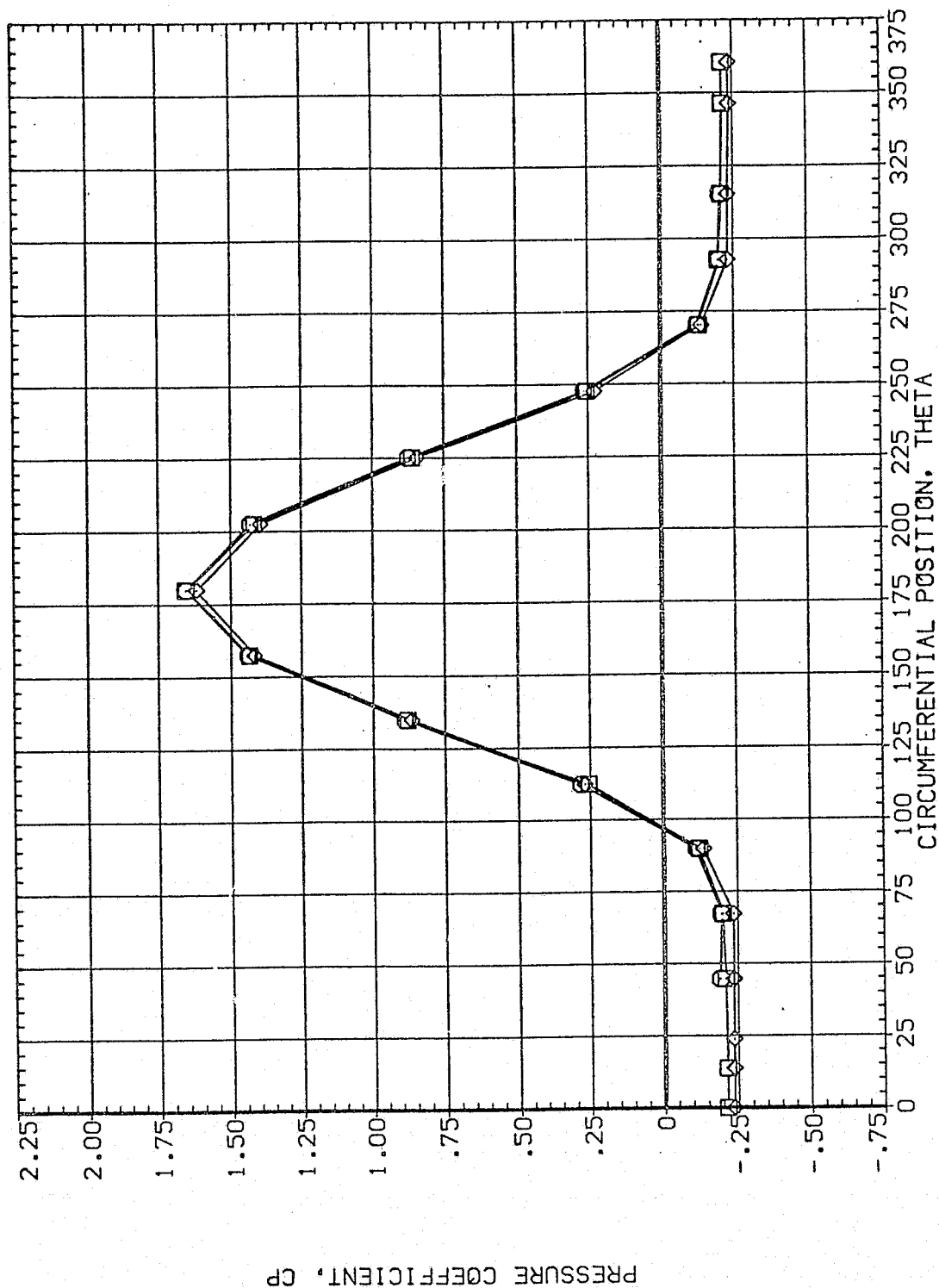


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
□	.892	91.830	1.960	2.000	PHI	.000
◇	.923					
◇	.954					

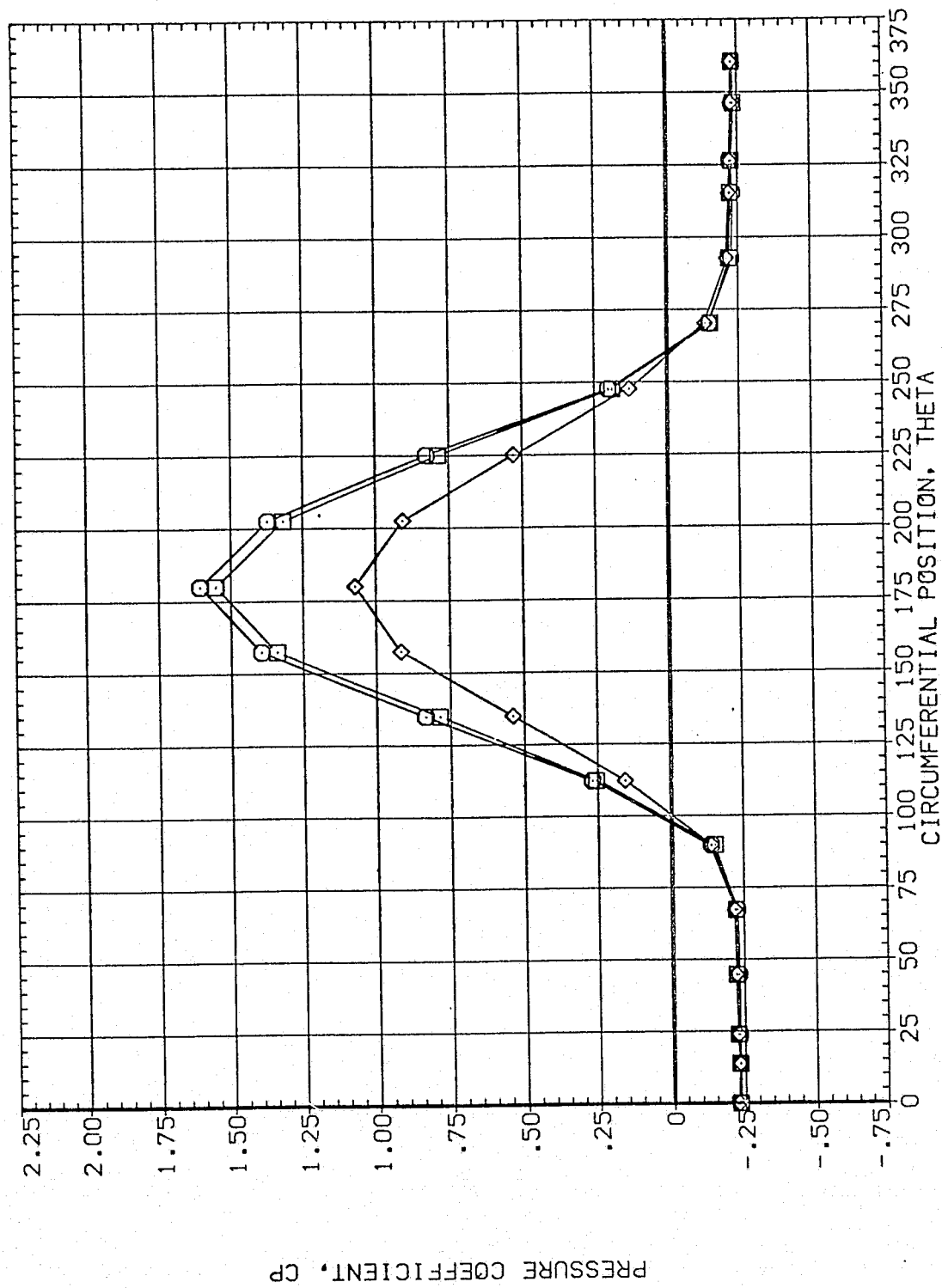


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	.055	94.850	1.960	HOUNT	2.000	PHI
□	.108					
◇	.162					

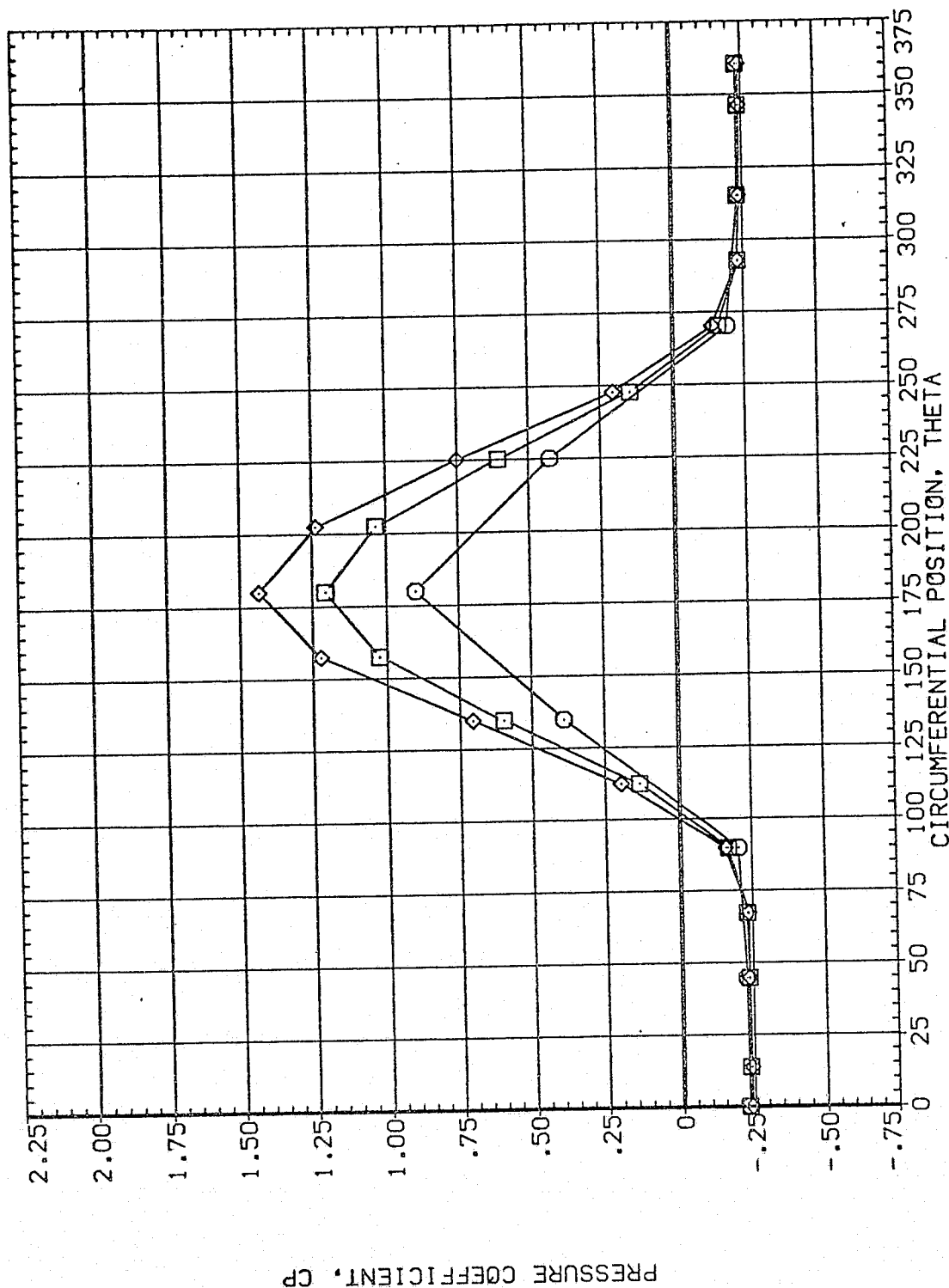


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	90.000
○	.216	94.850	1.960	MOUNT	2.000	PHI
□	.322					.000
◇	.518					

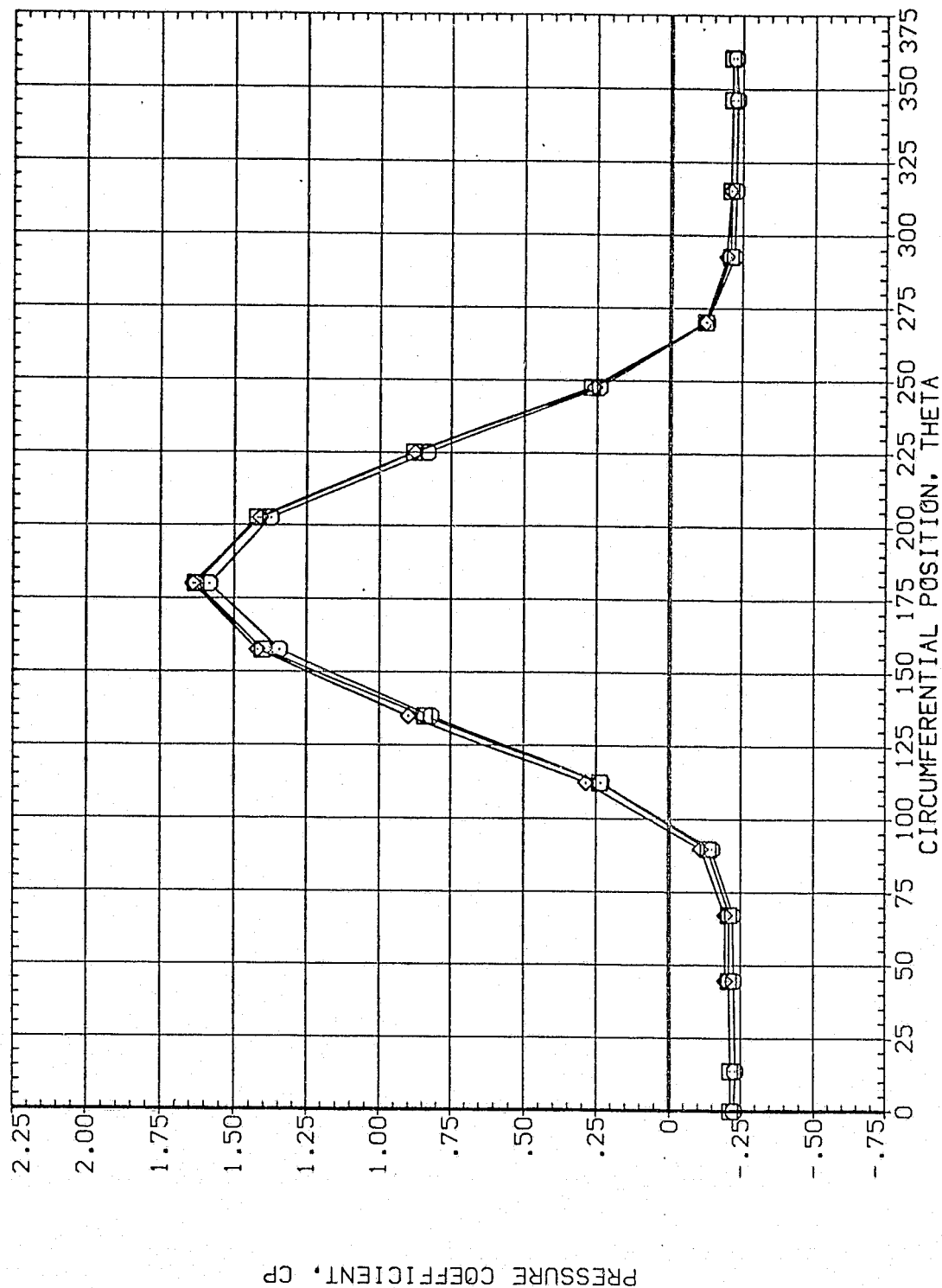


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	94.850	1.960	MOUNT	.000	90.000
□	.735				2.000	
◇	.860					.000

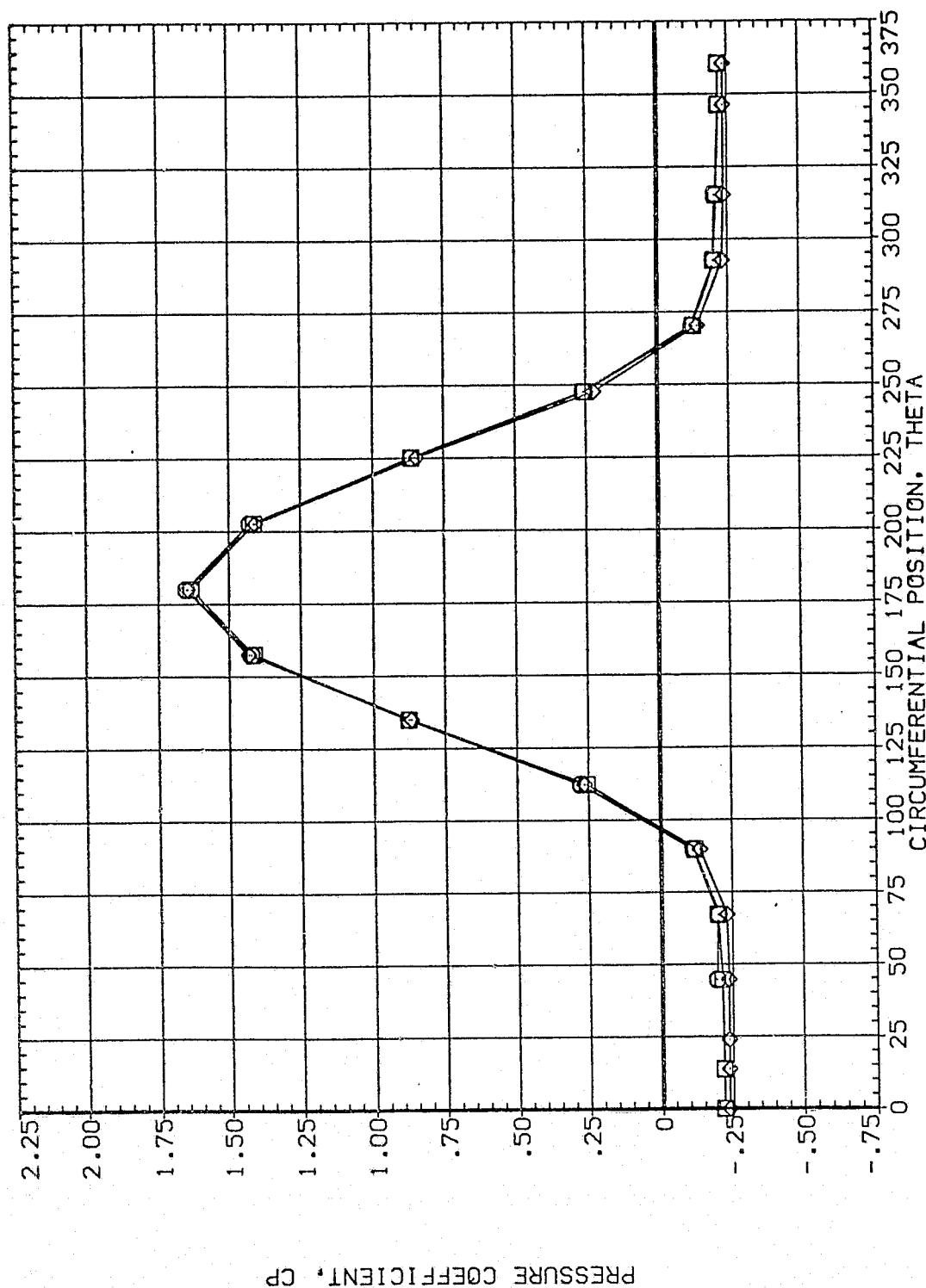


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.892	94.850	1.960	MOUNT	.000	90.000
◇	.923				2.000	.000
◇	.954					

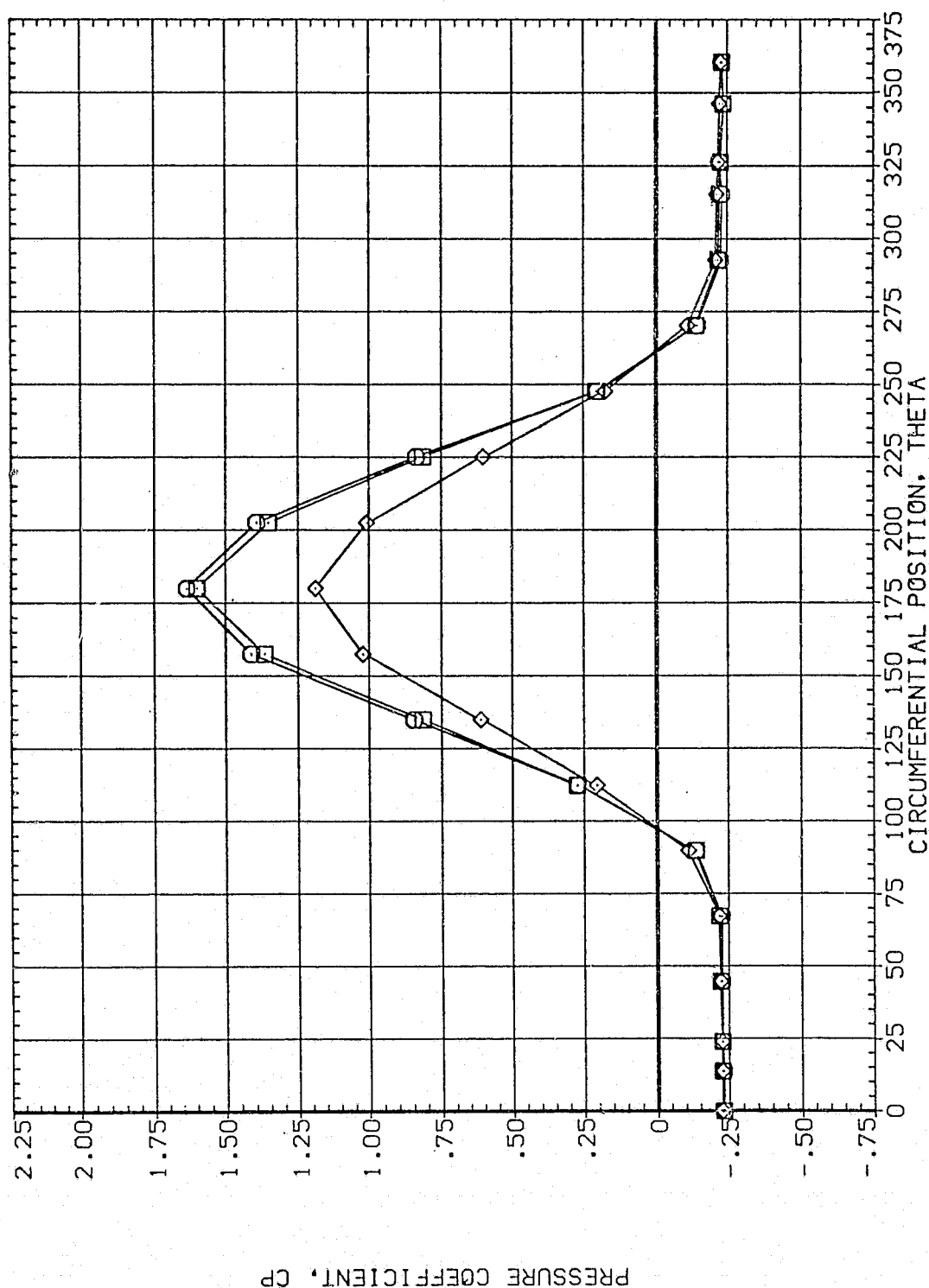


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL X/LB ALPHA MACH  
□ .055 97.850 1.970  
◇ .108  
◇ .162

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
PHI 90.000  
OFFSET .000

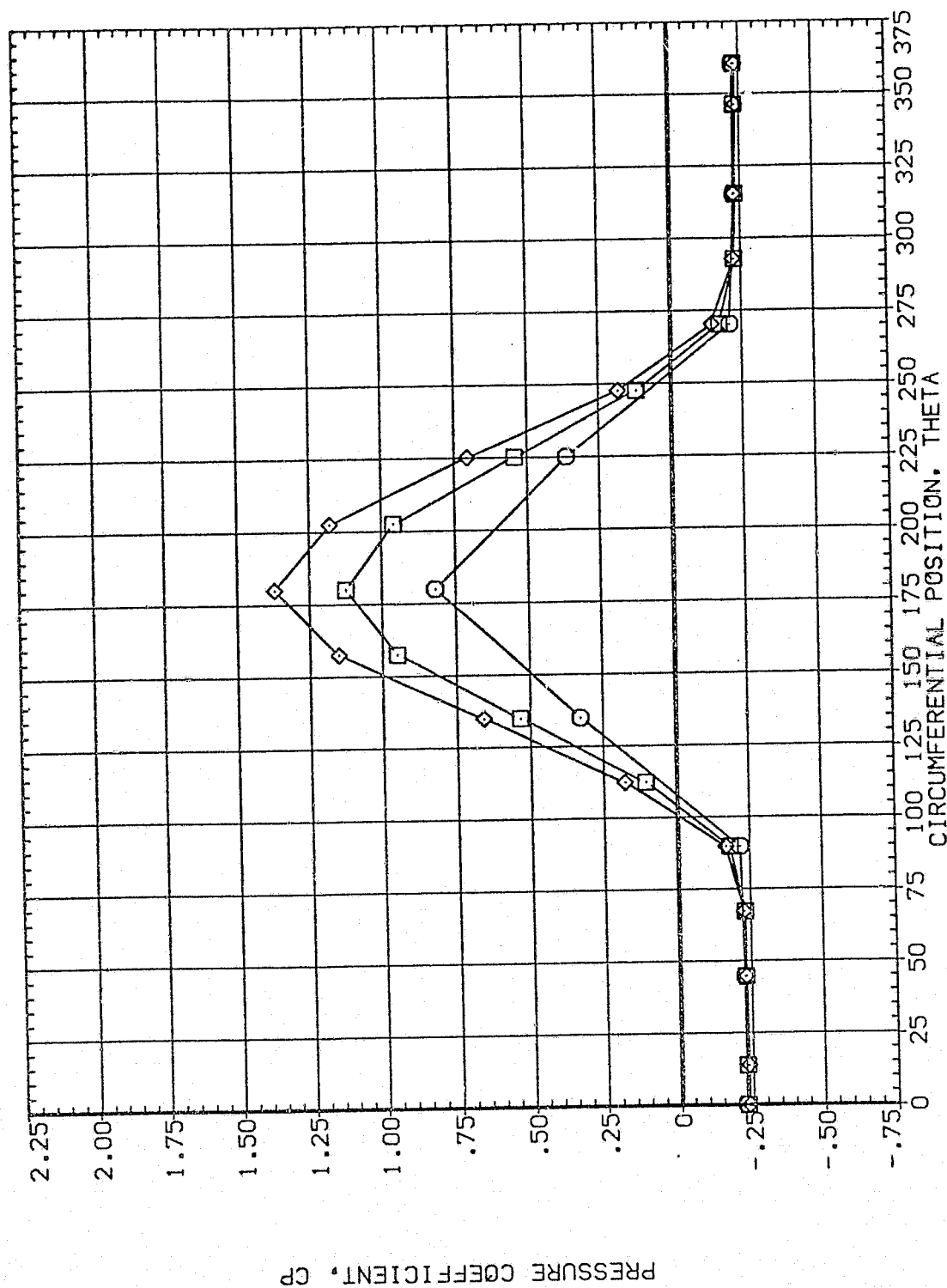


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2513

SYMBOL X/LB ALPHA MACH  
□ .216 97.850 1.970  
◇ .322 .518

PARAMETRIC VALUES  
BETA .000  
HOUNT 2.000  
OFFSET PHI .000

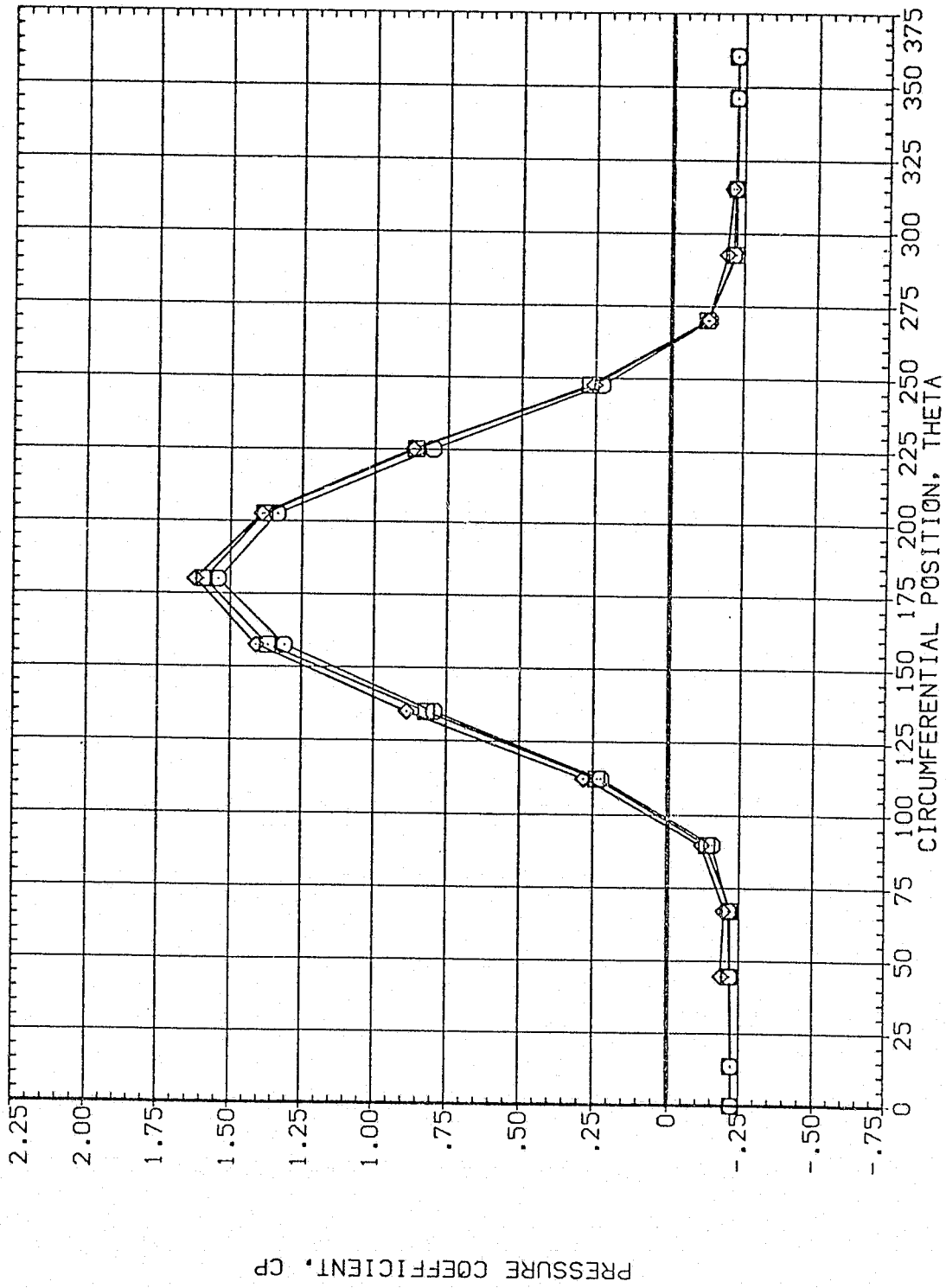


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2514

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	.610	97.850	1.970	MOUNT	.000	.000
□	.735				PHI	
◇	.860					

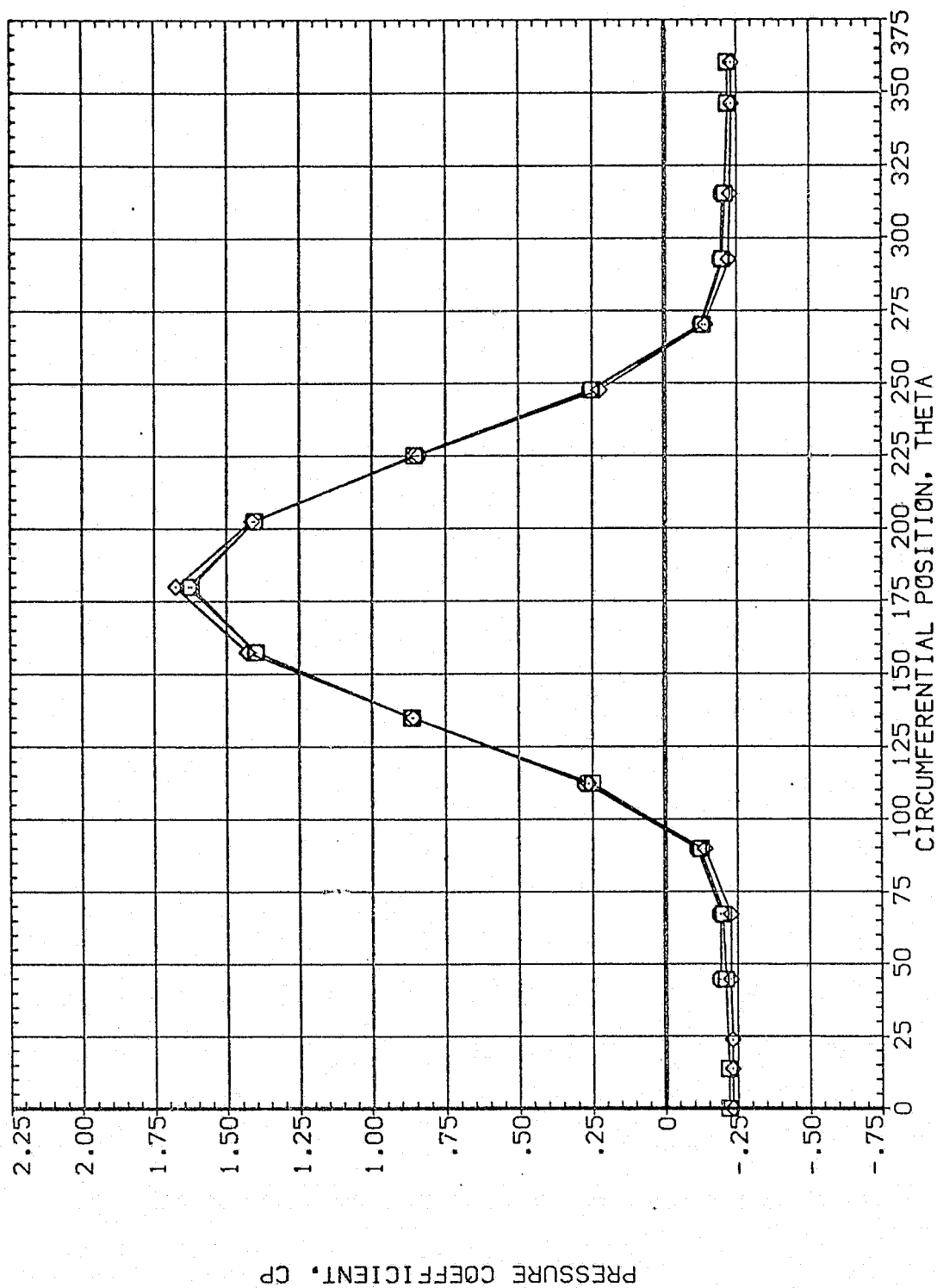


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	.892	97.850	1.970	MOUNT	2.000	PHI
□	.923					
◇	.954					

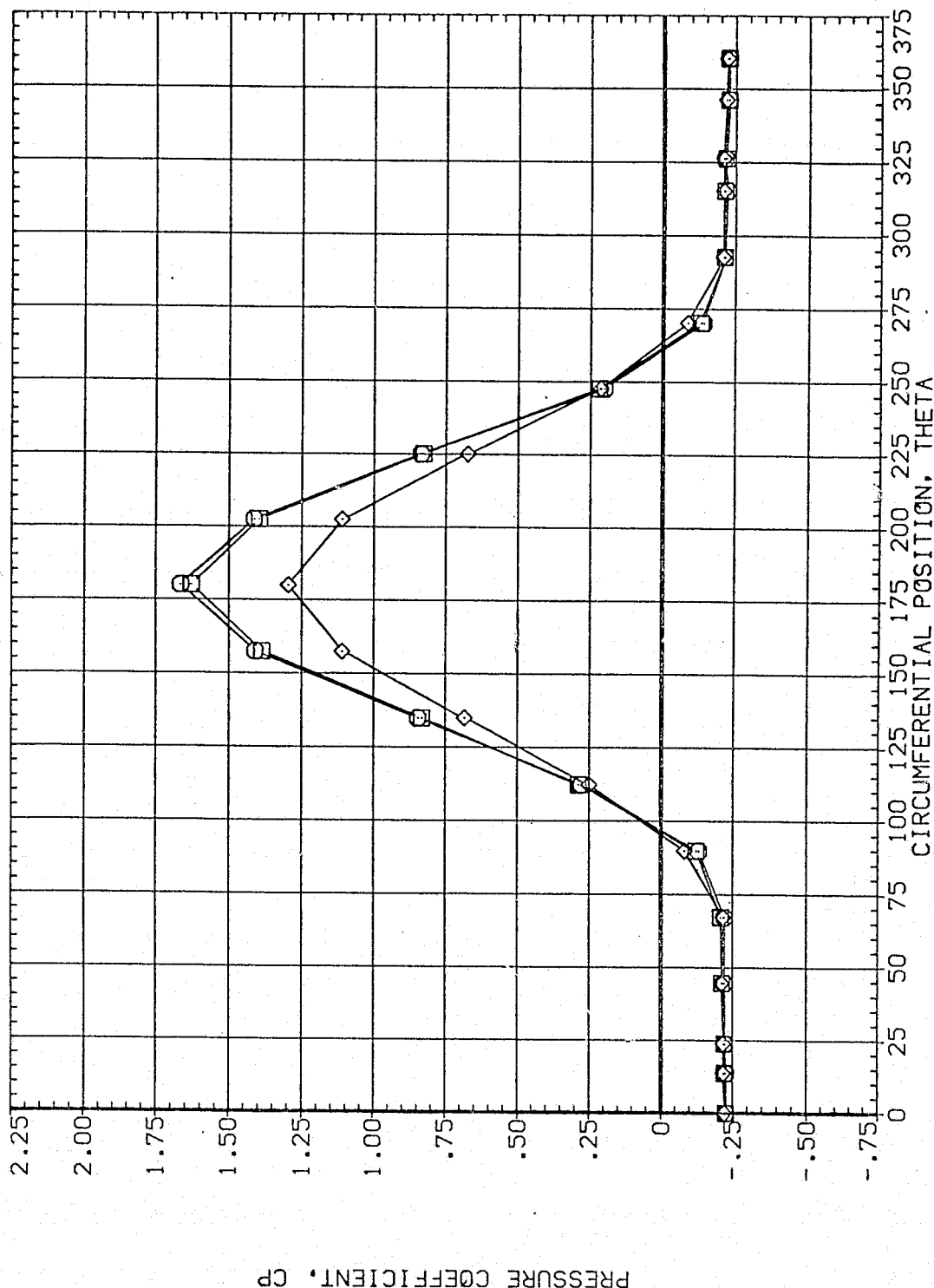


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.055	99.730	1.960	.000	.000	.000
◇	.108			2.000		
◇	.162					

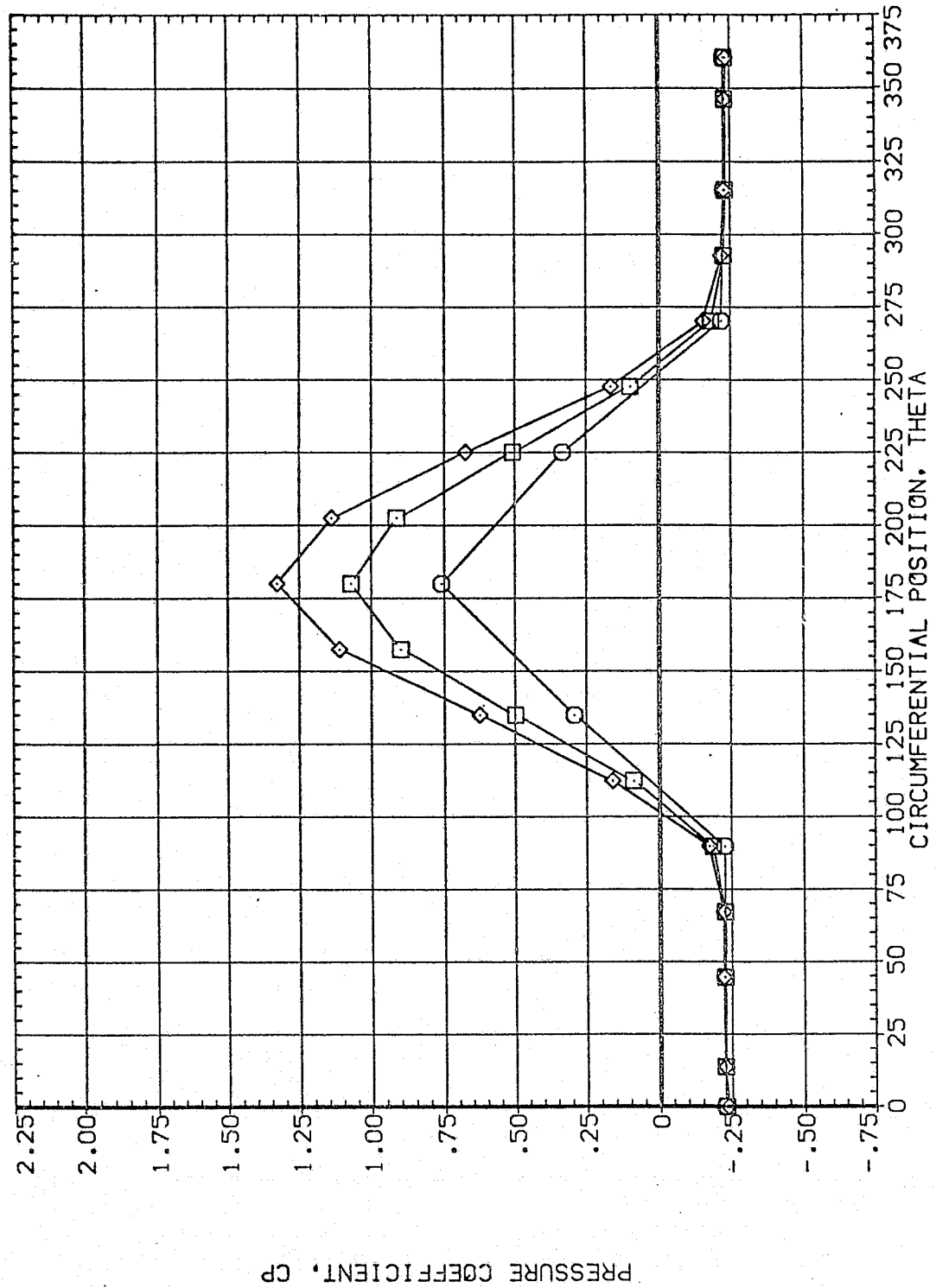


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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SYMBOL X/LB ALPHA MACH  
 □ .216  
 ○ .322  
 ◇ .518

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI .000

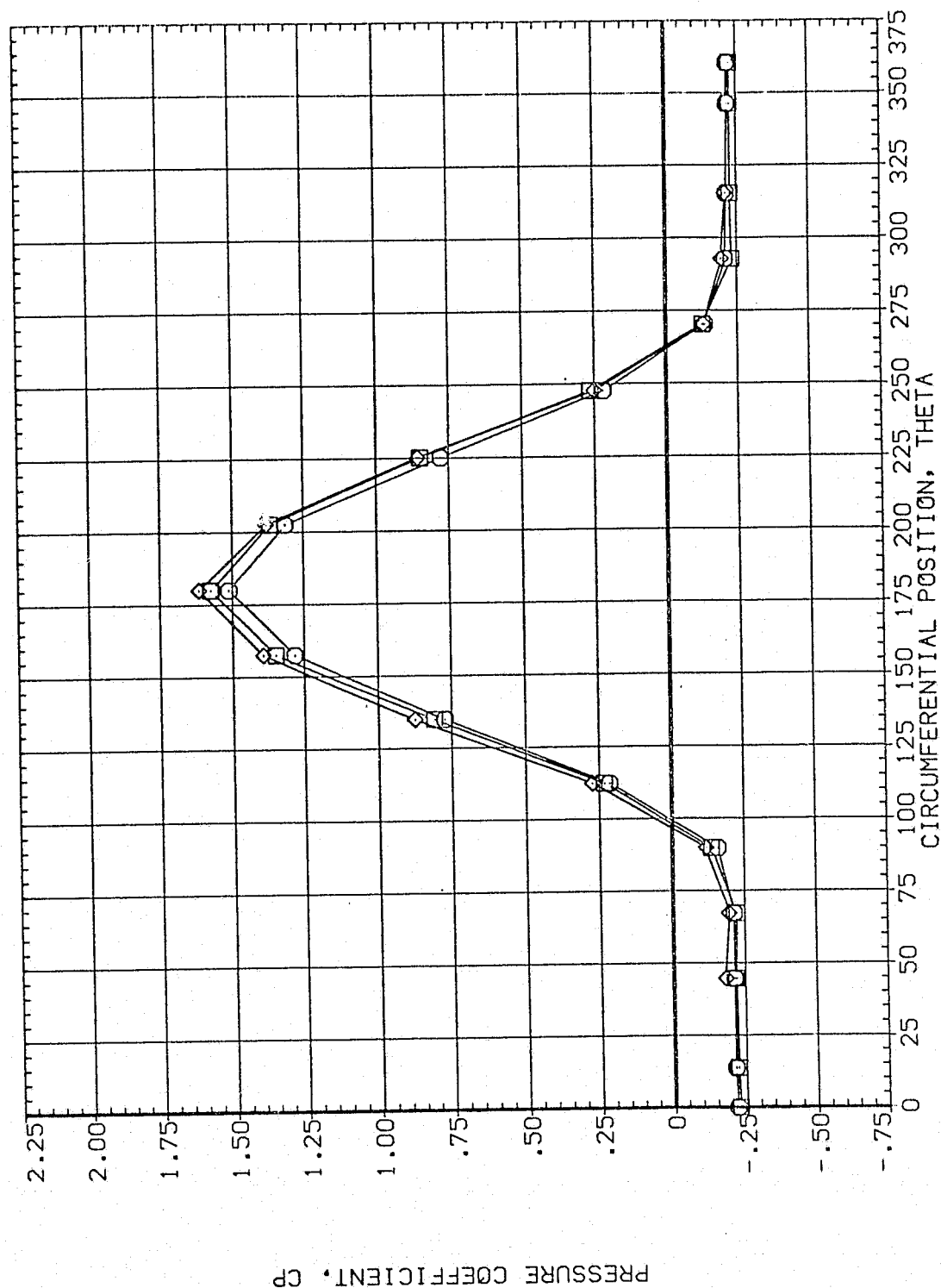


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
 PAGE 2518



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2. (P1A080)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	99.730	1.960	MOUNT	.000	.000
□	.735				2.000	
◇	.860					

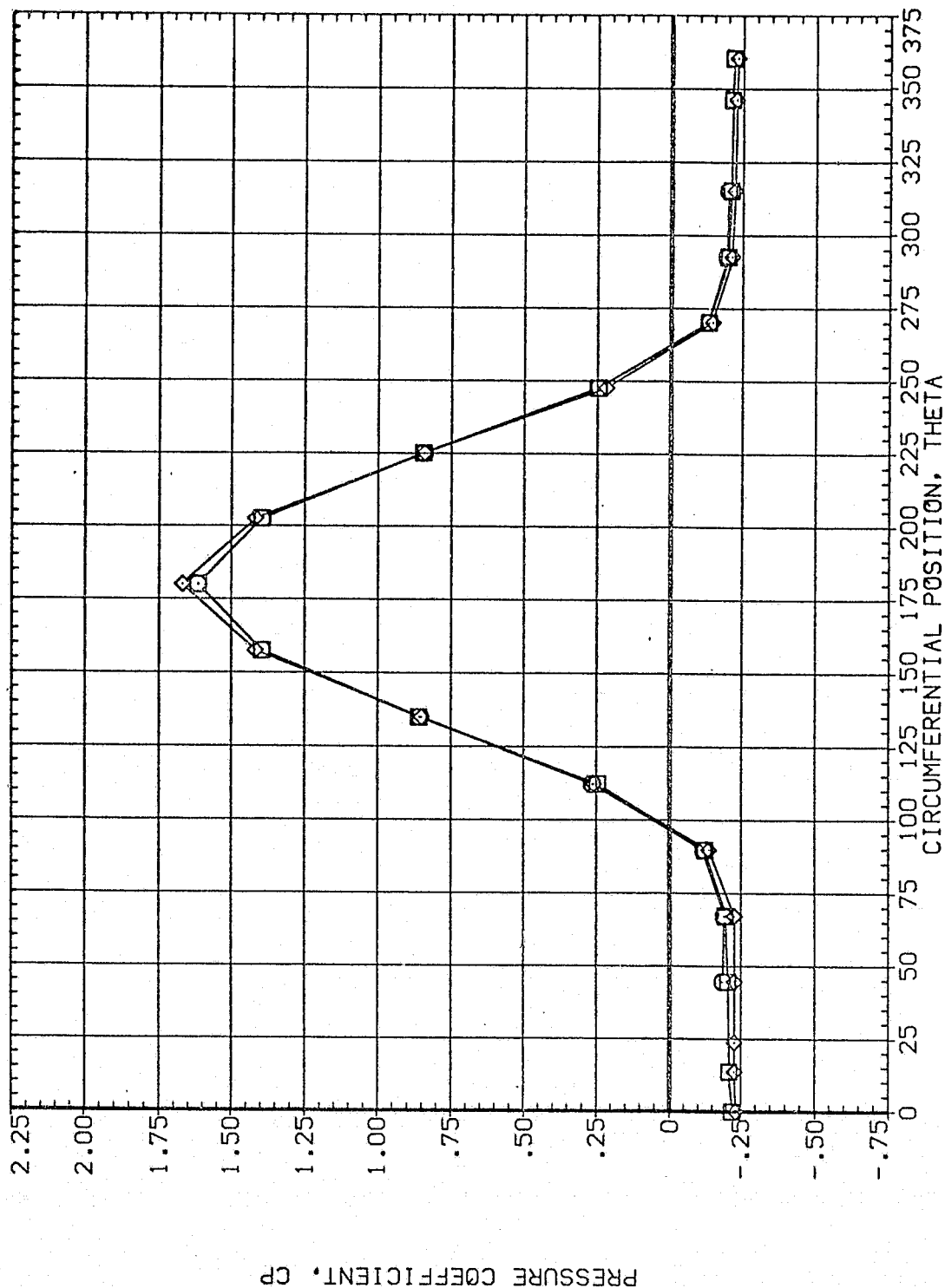


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
□	.892	99.730	1.960	MOUNT	.000	PHI
◇	.923					
◇	.954					

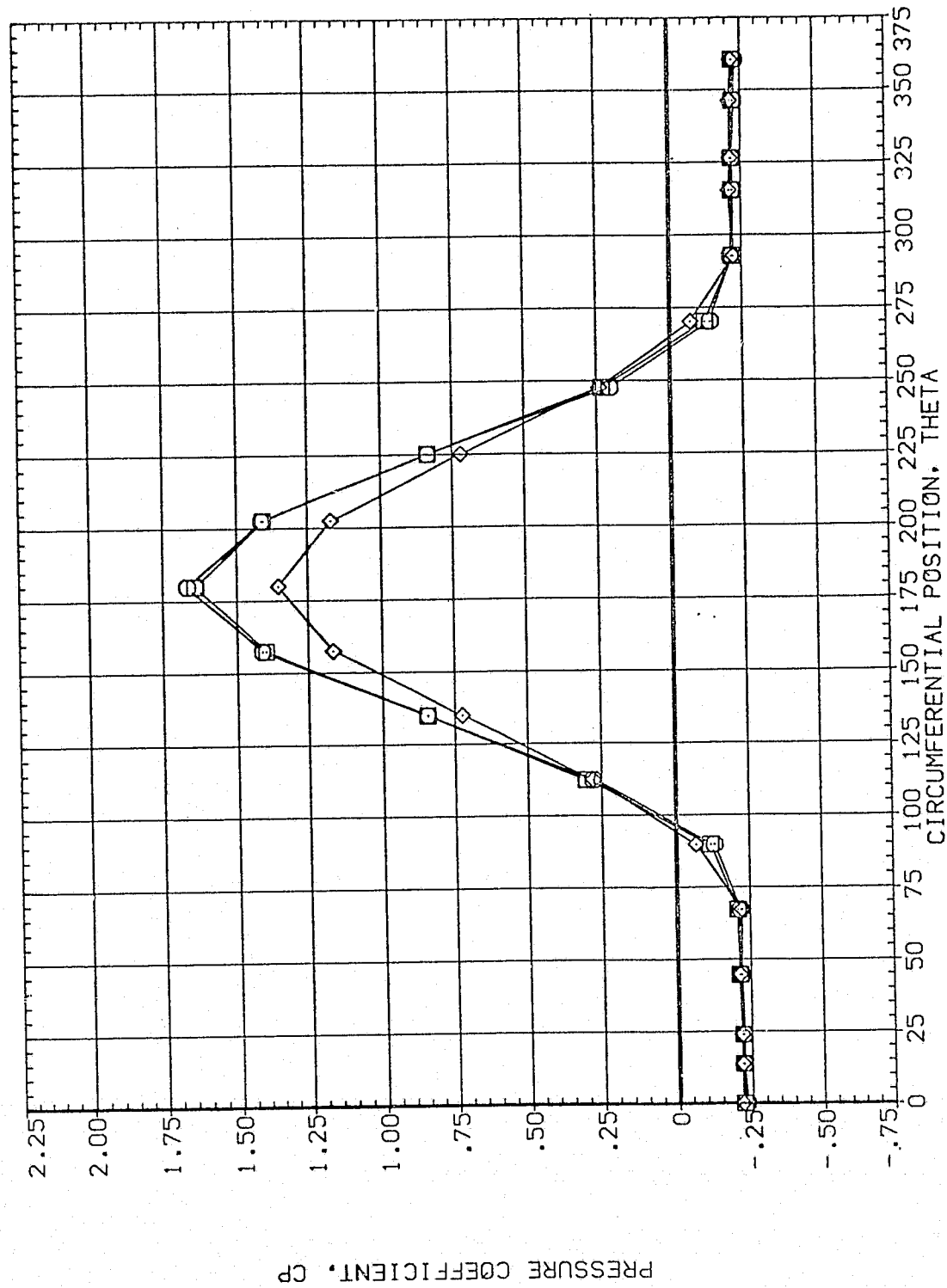


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2520

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK. T2 (P1A061)

SYMBOL  
○  
□  
◇

X/LB .055  
.108  
.162

ALPHA  
51.000

MACH  
3.480

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000  
OFFSET  
PHI

60.000  
.000

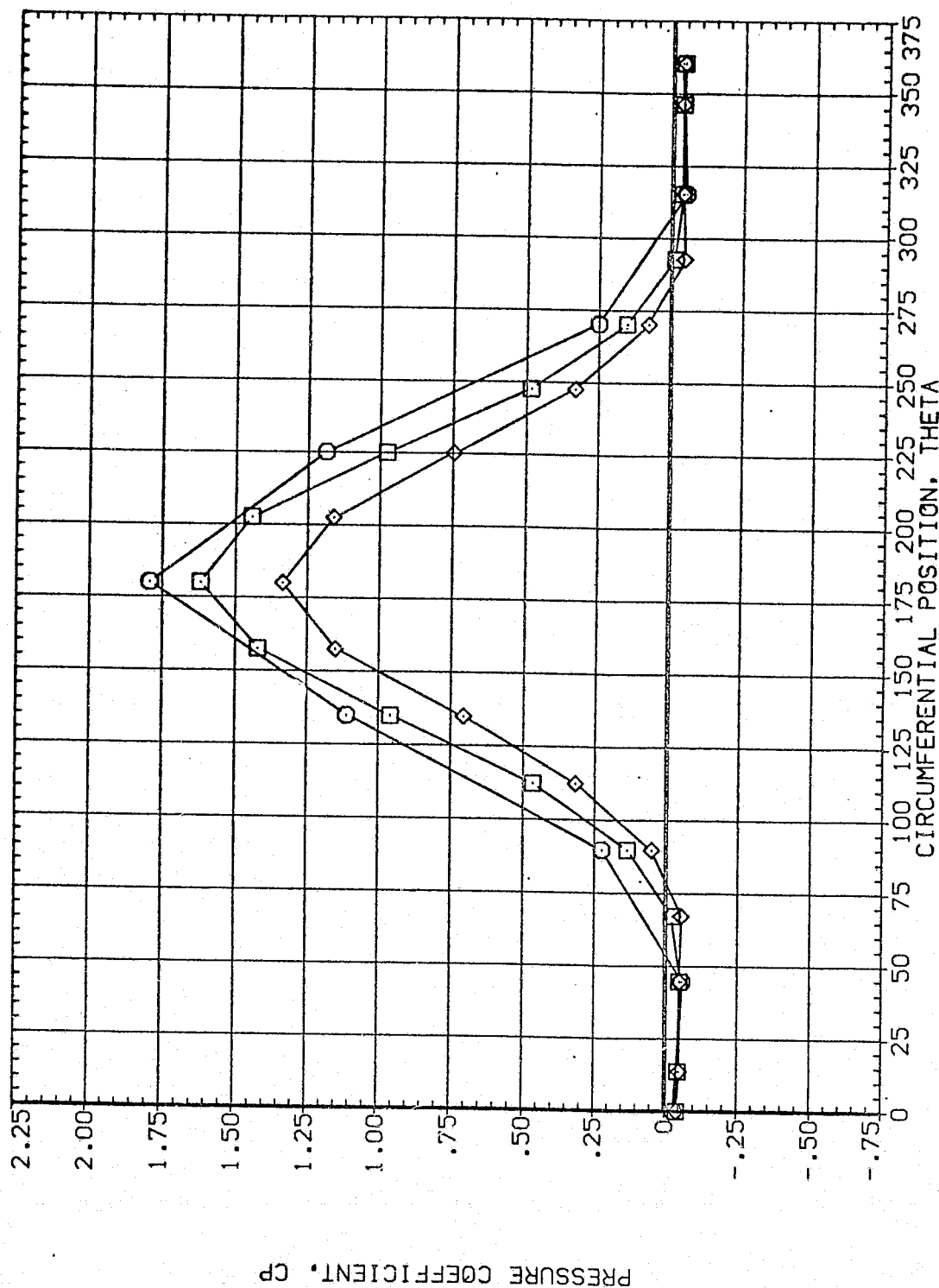


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
				MOUNT	2.000	PHI

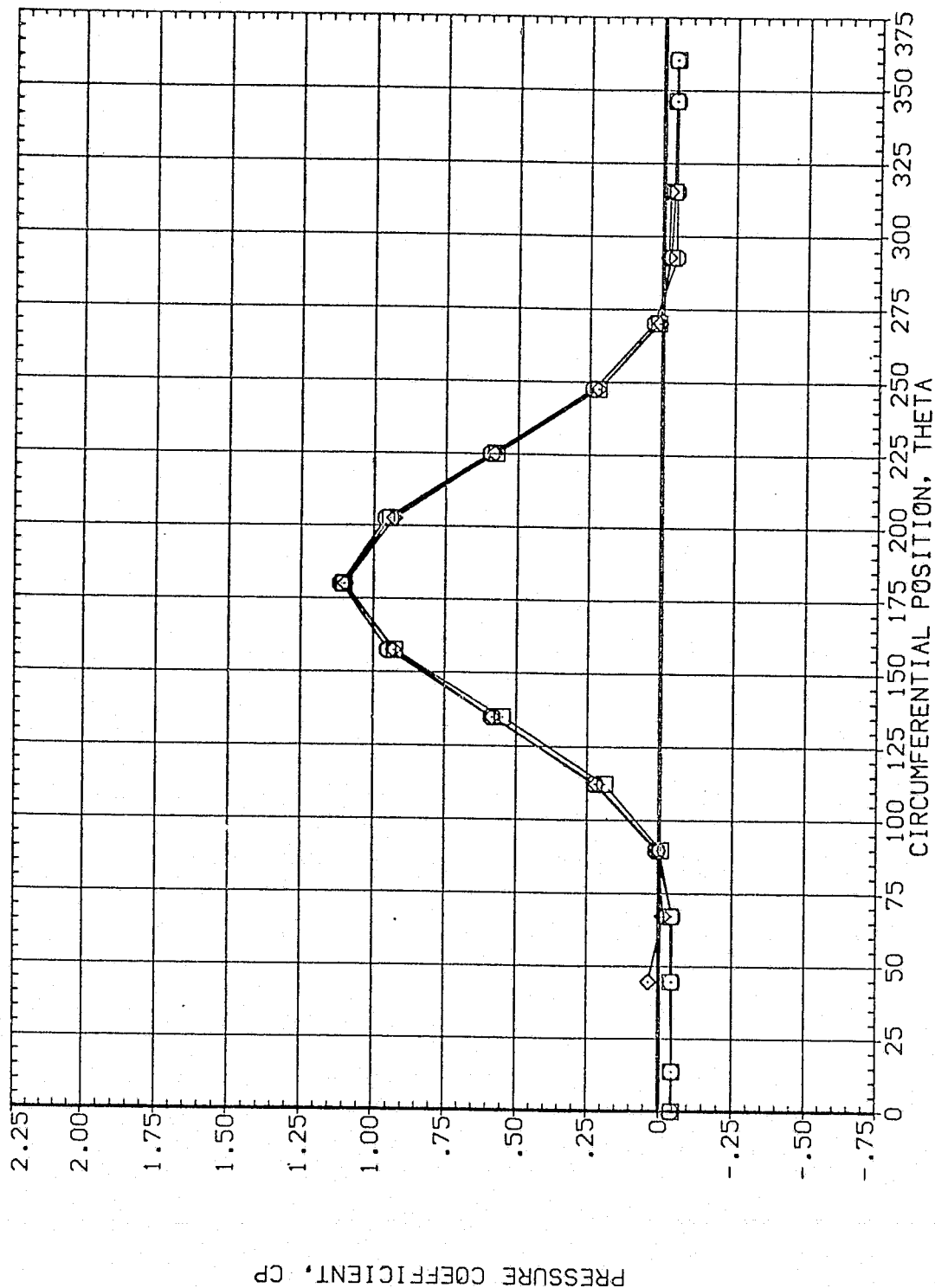


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
◇	.610	51.000	3.480	HOUNT	PHI	.000
□	.735					
◇	.860					

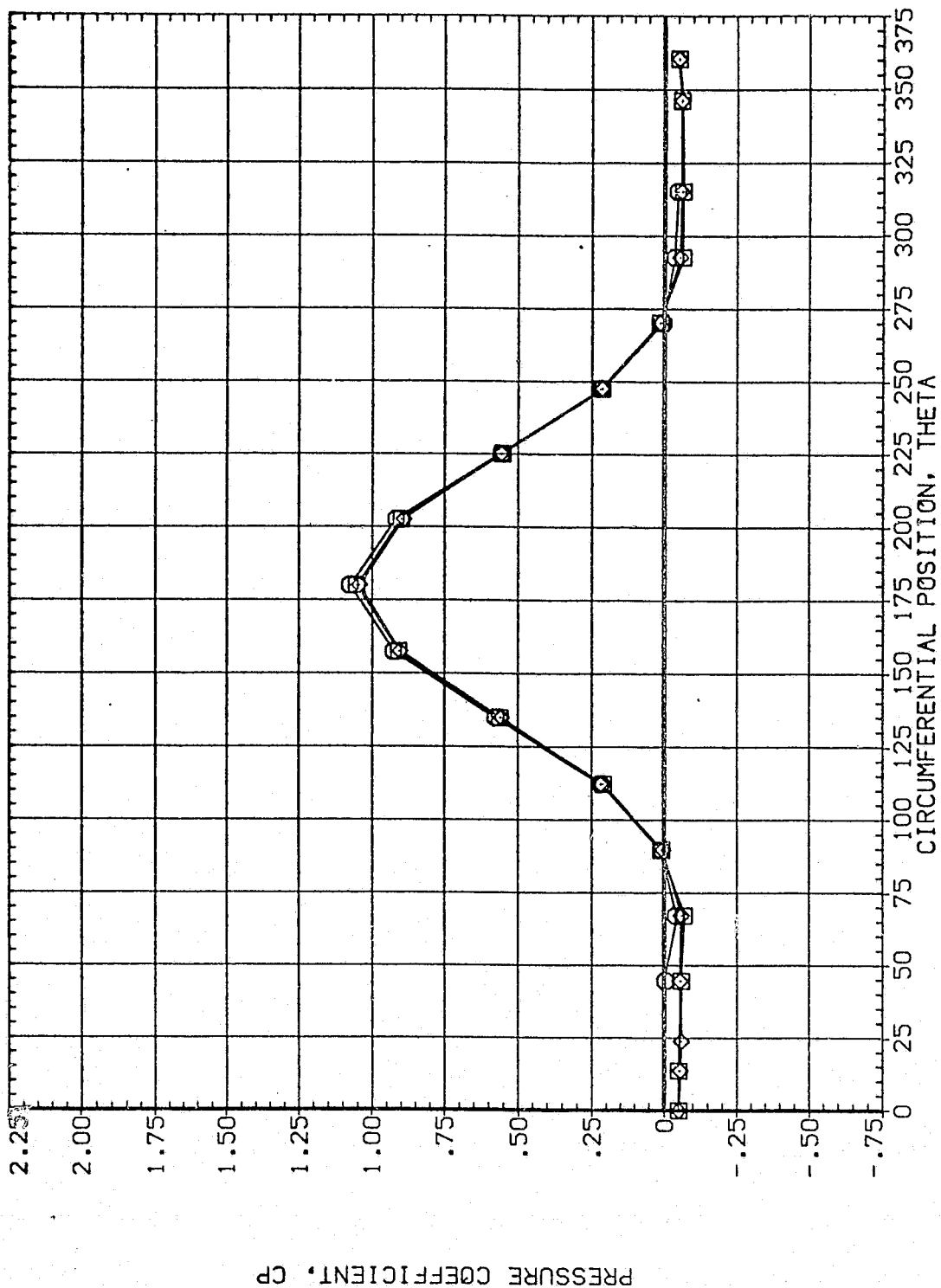


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	.892	51.000	3.480	MOUNT	.000 OFFSET
◇	.923				2.000 PHI
	.954				60.000

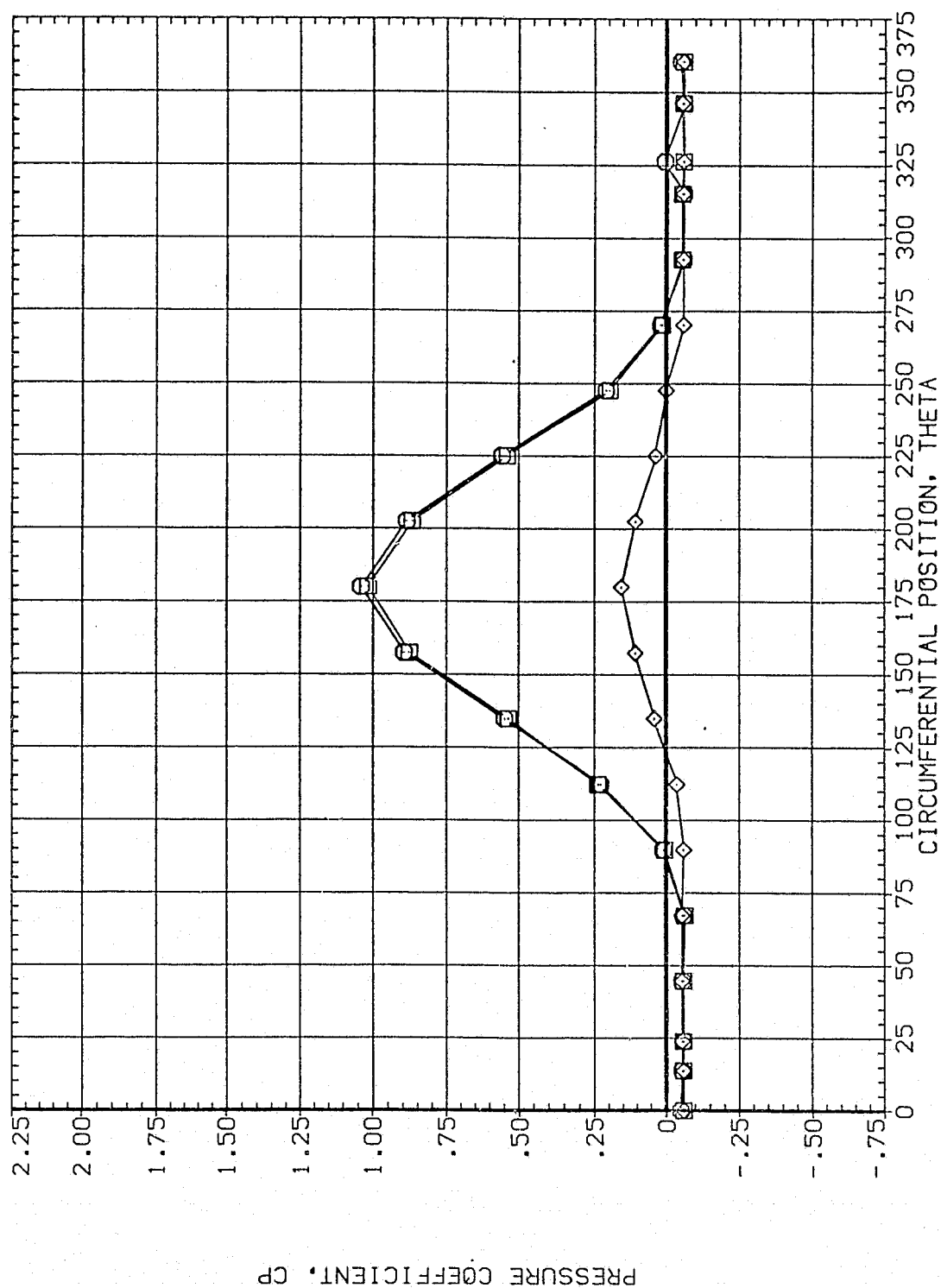


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK. T2 (P1A062)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSEY	PHI
○	.055	54.130	3.480	MOUNT	.000	60.000
□	.108				2.000	
◇	.162					.000

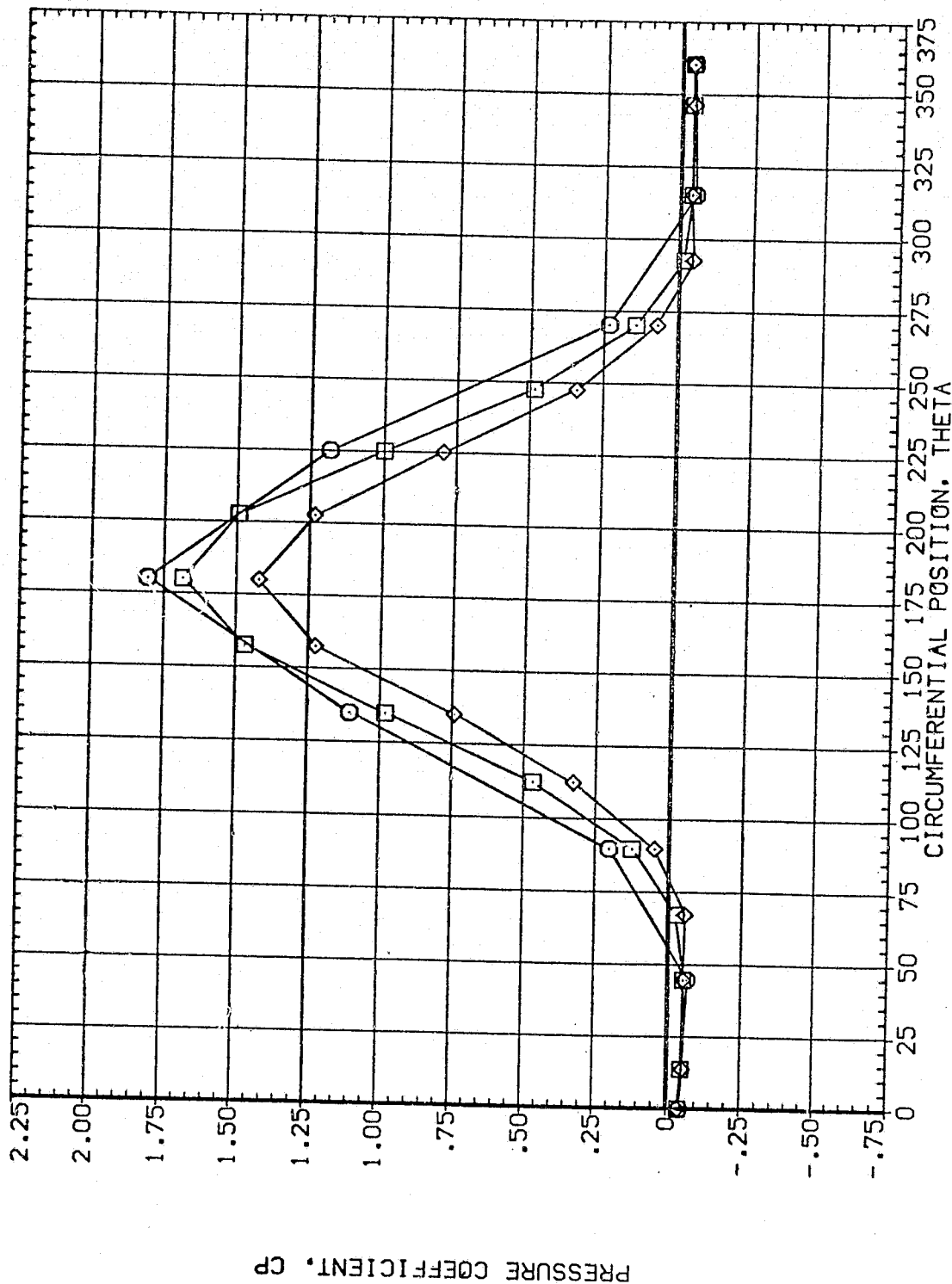


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTRUDANCES

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SYMBOL  
 X/LB  
 .216  
 .322  
 .518

ALPHA  
 54.130

MACH  
 3.480

PARAMETRIC VALUES  
 BETA  
 MOUNT

.000  
 2.000

PHI

60.000  
 .000

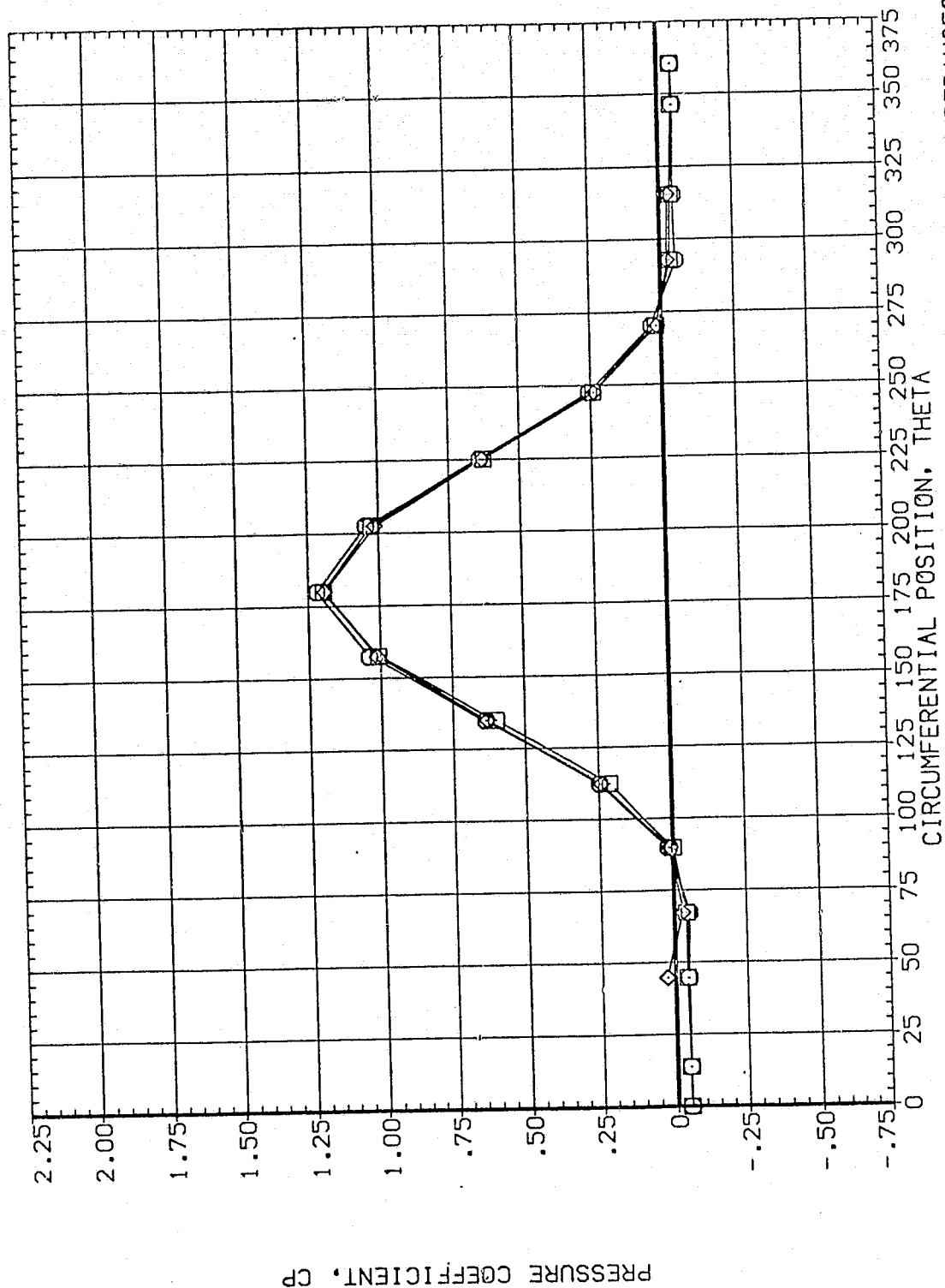


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES





(6)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
	.610	54.130	3.480	MDUNT	.000	.000
□	.735				2.000	
◇	.860					

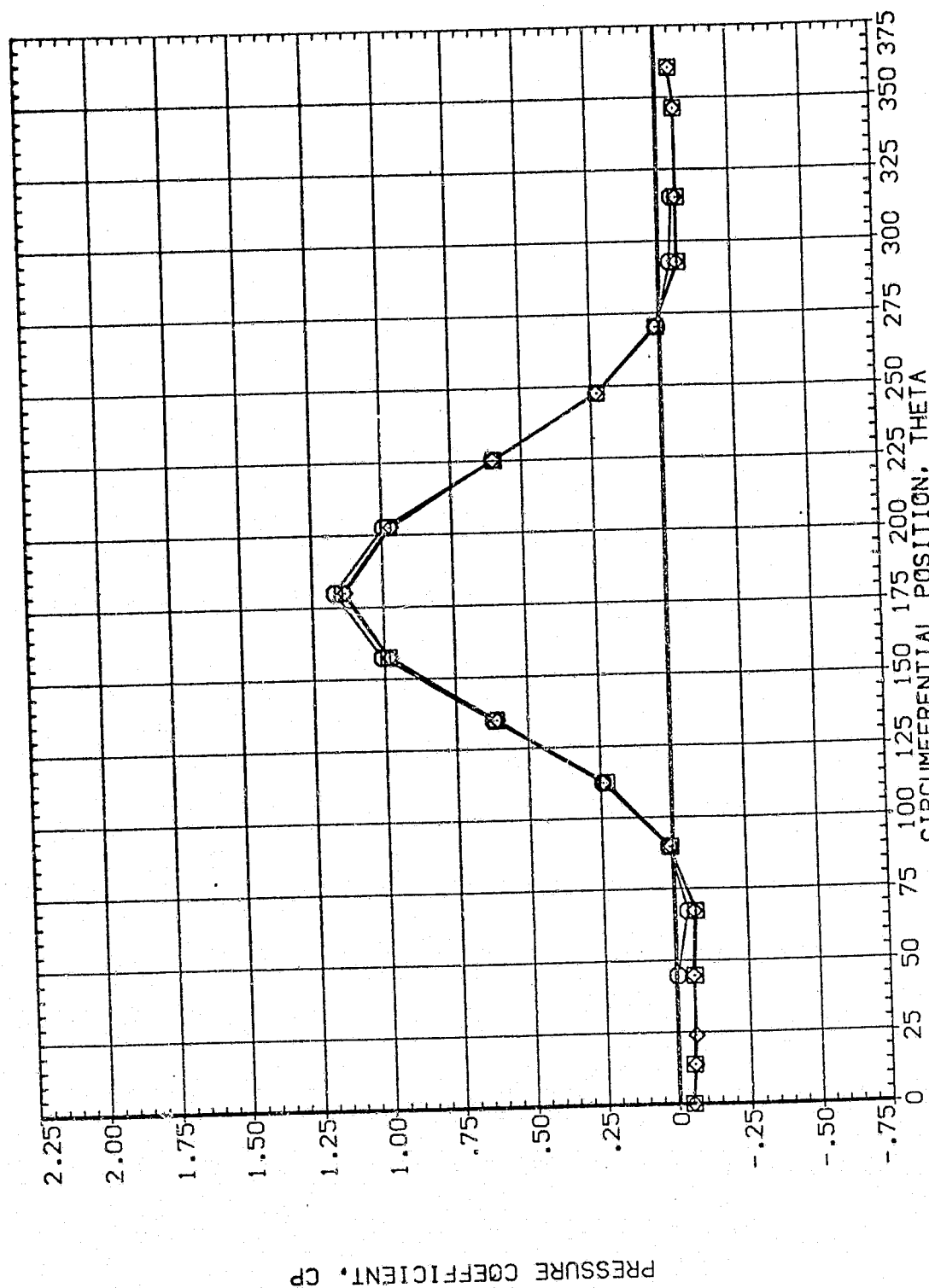


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL X/LB ALPHA MACH  
 □ .892 54.130 3.480  
 ◇ .923 .954

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 60.000  
 .000

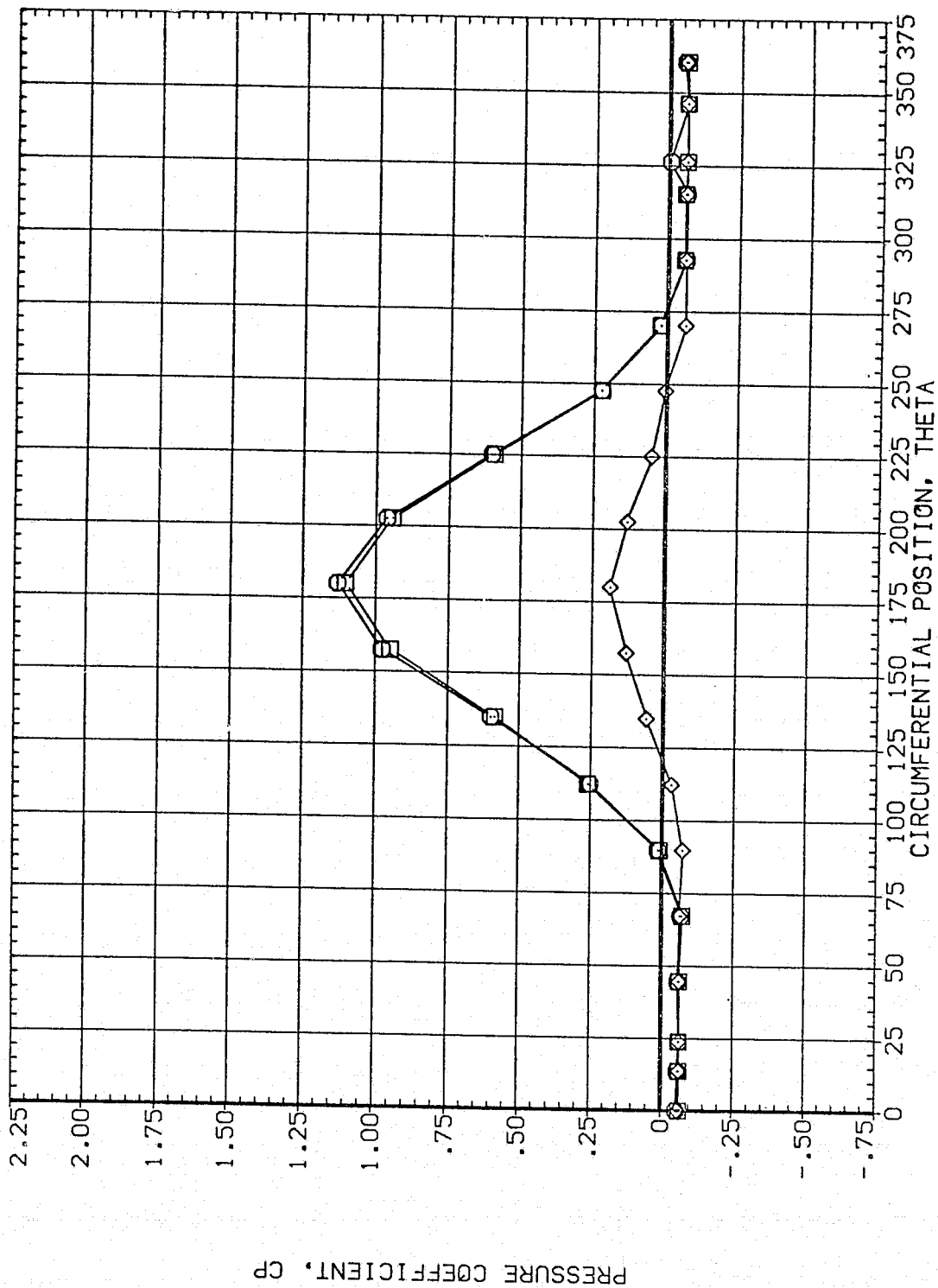


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL X/LB ALPHA MACH  
 ○ .055 57.130 3.480  
 □ .108  
 ◇ .162

PARAMETRIC VALUES  
 BETA MOUNT  
 .000 .000  
 2.000 PHI 60.000 .000

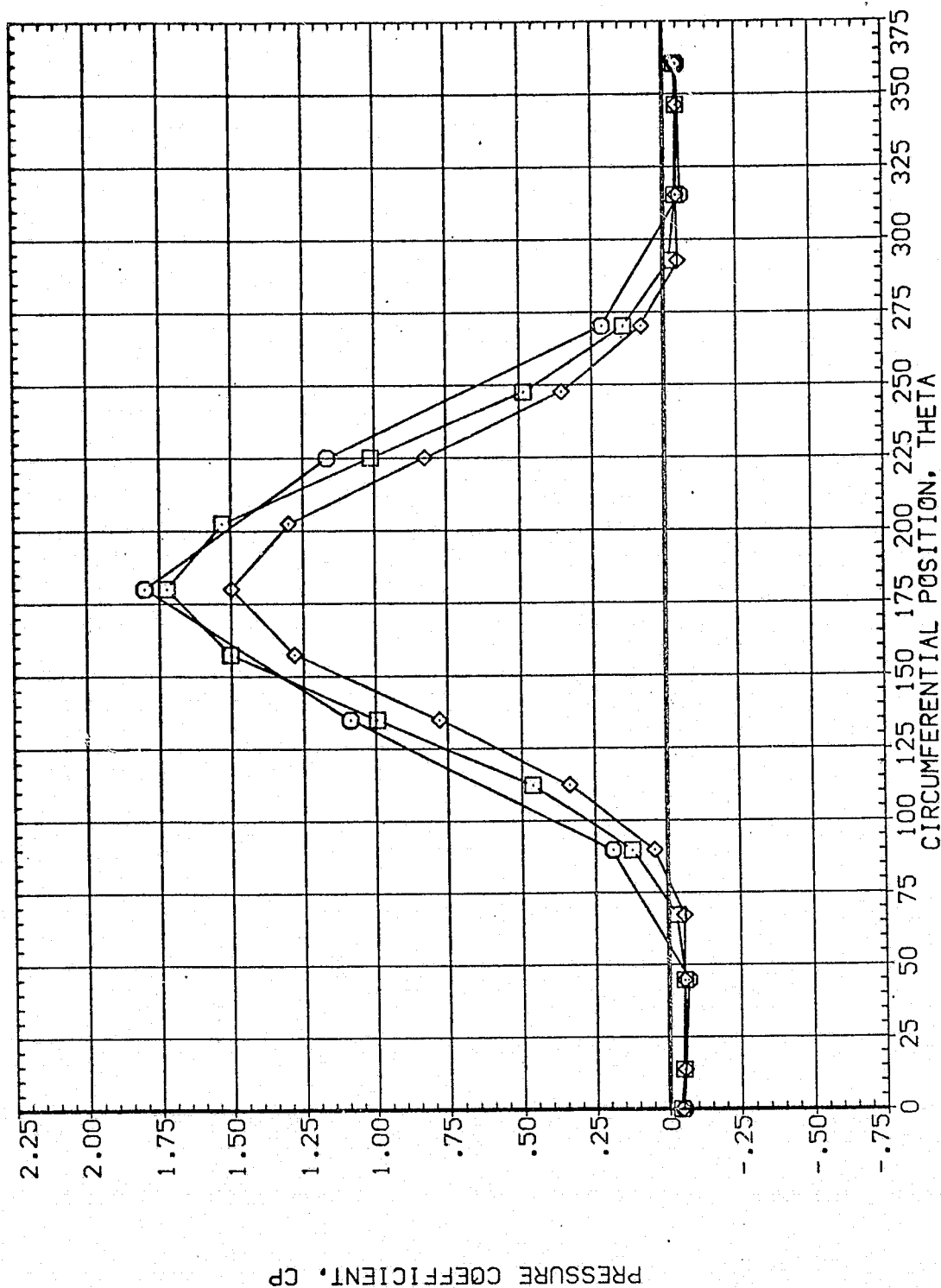


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
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SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
				MOUNT	PHI	.000
	.216	57.130	3.480			
	.322					
	.518					

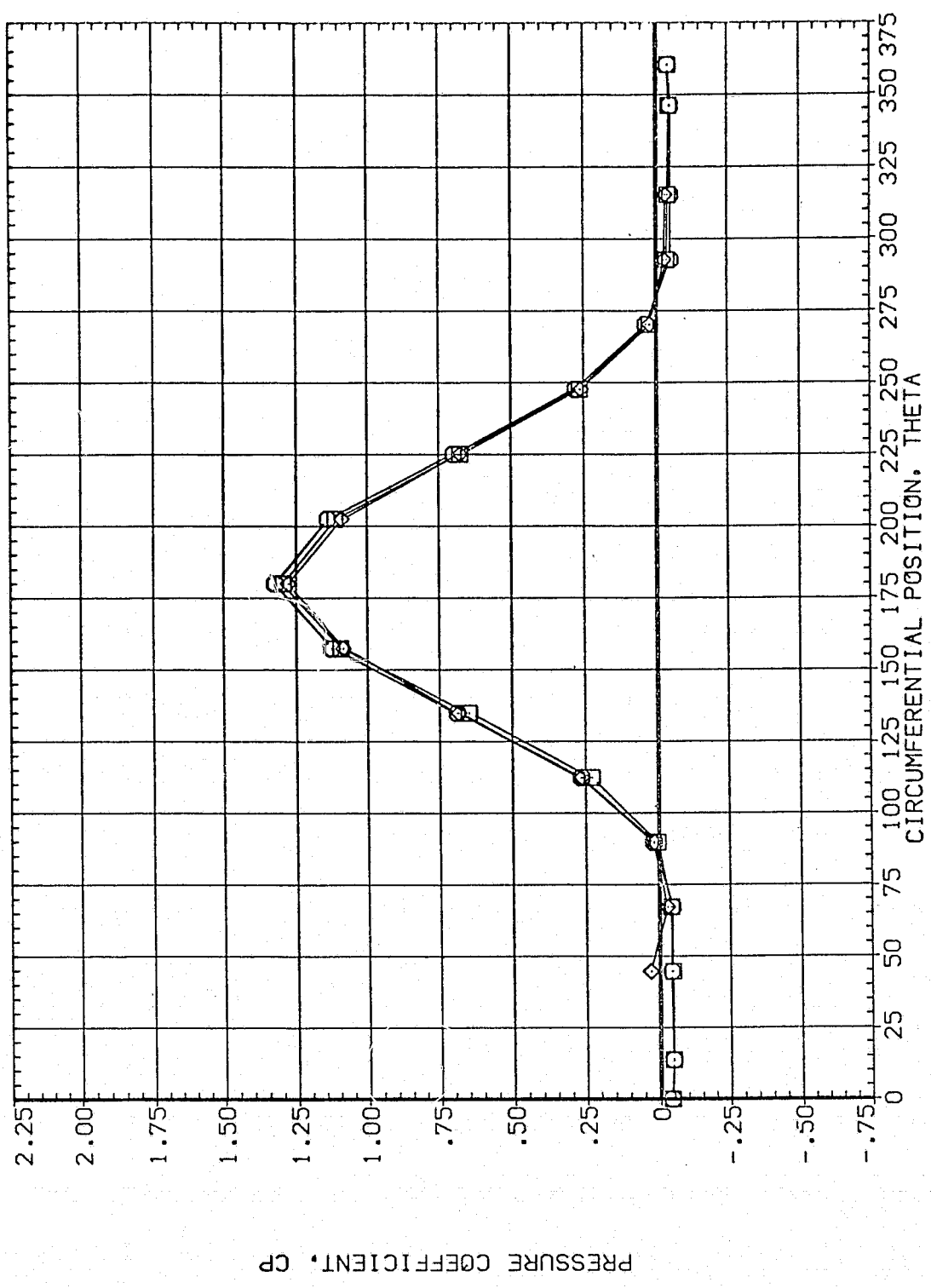


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL X/LB ALPHA MACH  
○ .610 57.130 3.480  
□ .735  
◇ .860

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
PHI 60.000  
OFFSET .000

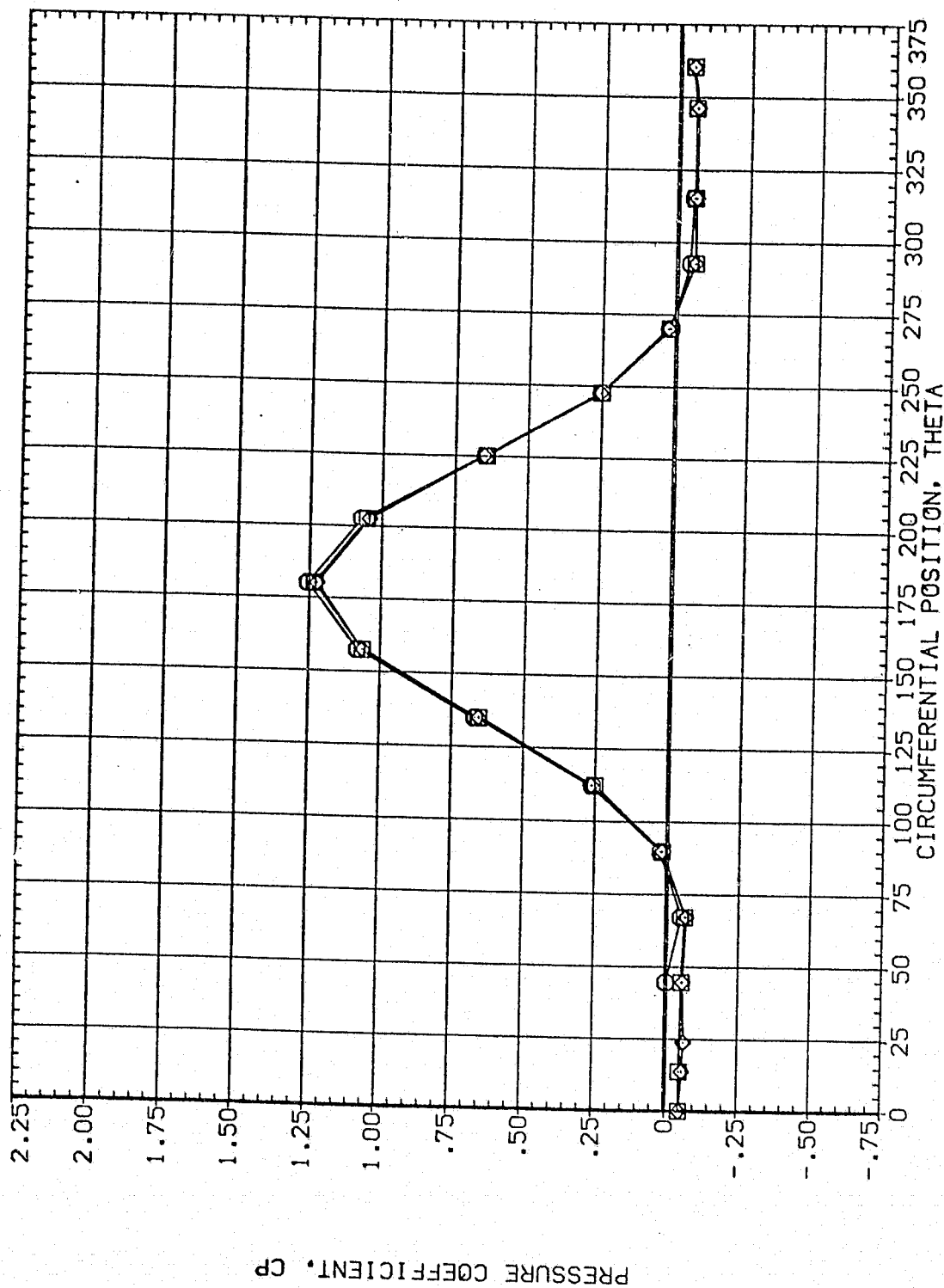


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
○	.892	57.130	3.480	Mount	2.000	PHI
□	.923					
◇	.954					

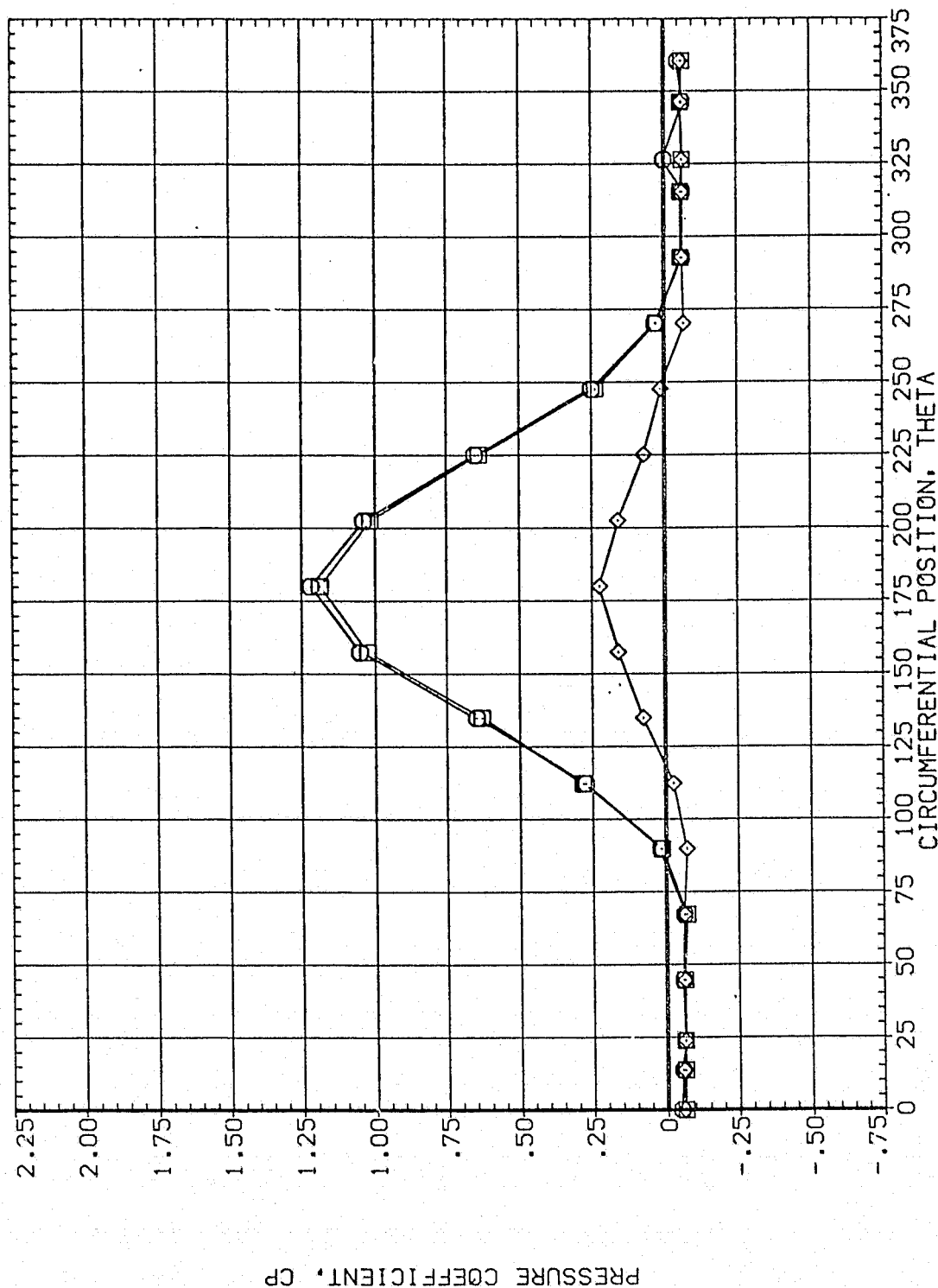


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	60.130	3.480	2.000	.000	.000
□	.108					
◇	.162					

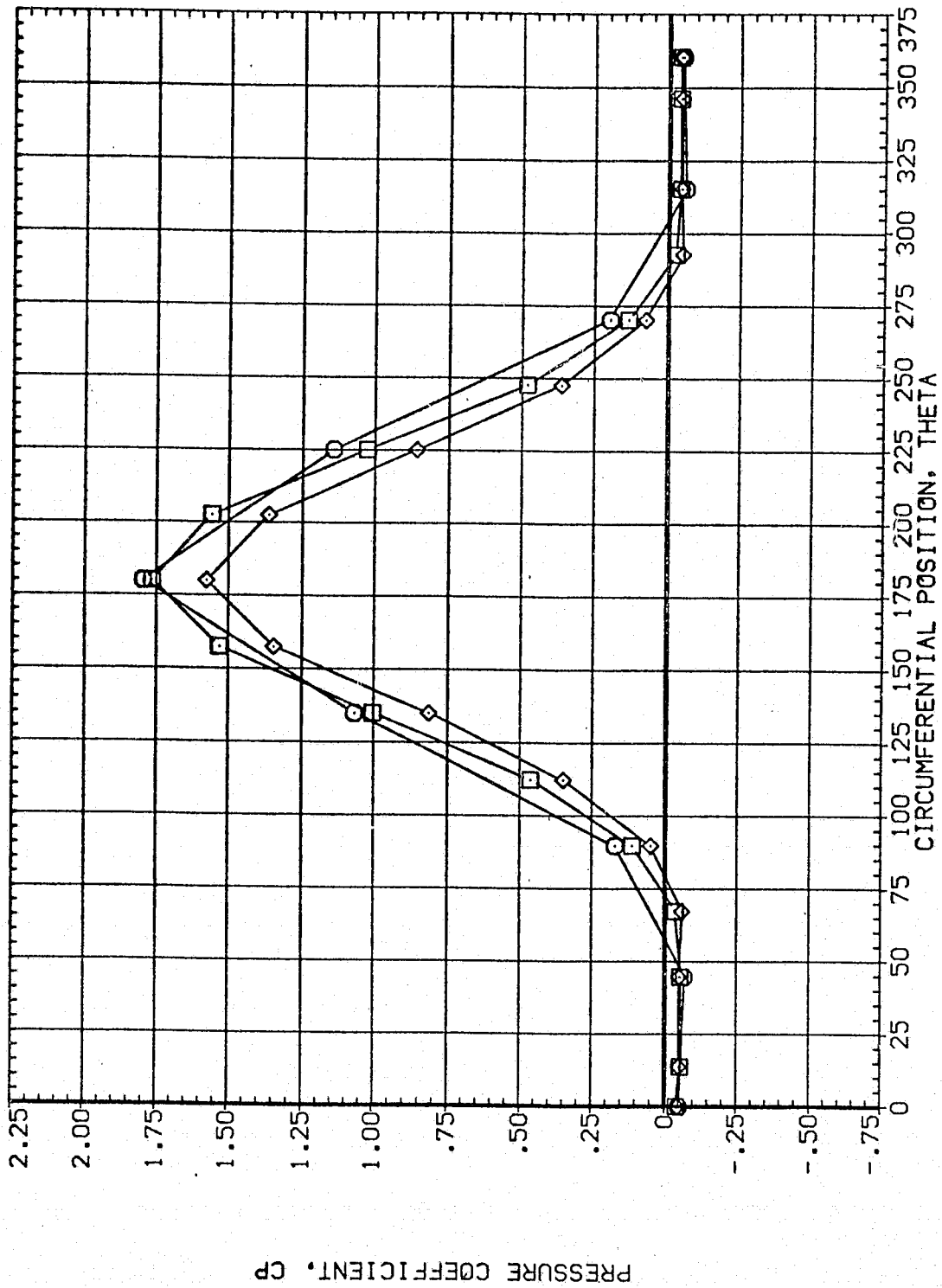


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.216	60.130	3.480	MMOUNT	.000 OFFSET
□	.322				2.000 PHI
◇	.518				60.000

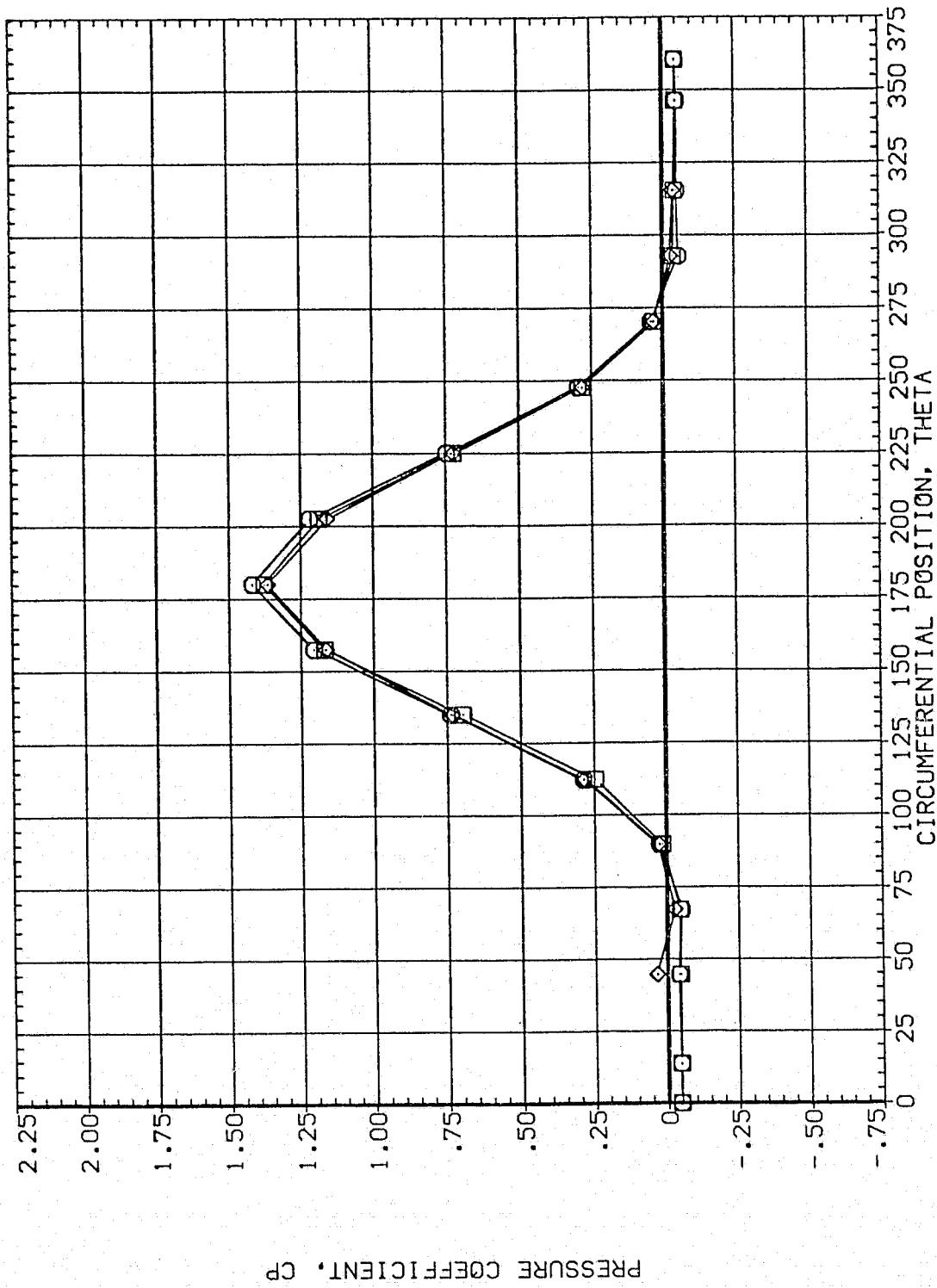


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
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MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.610	60.130	3.480	2.000	.000	60.000
◇	.735					.000
◇	.860					

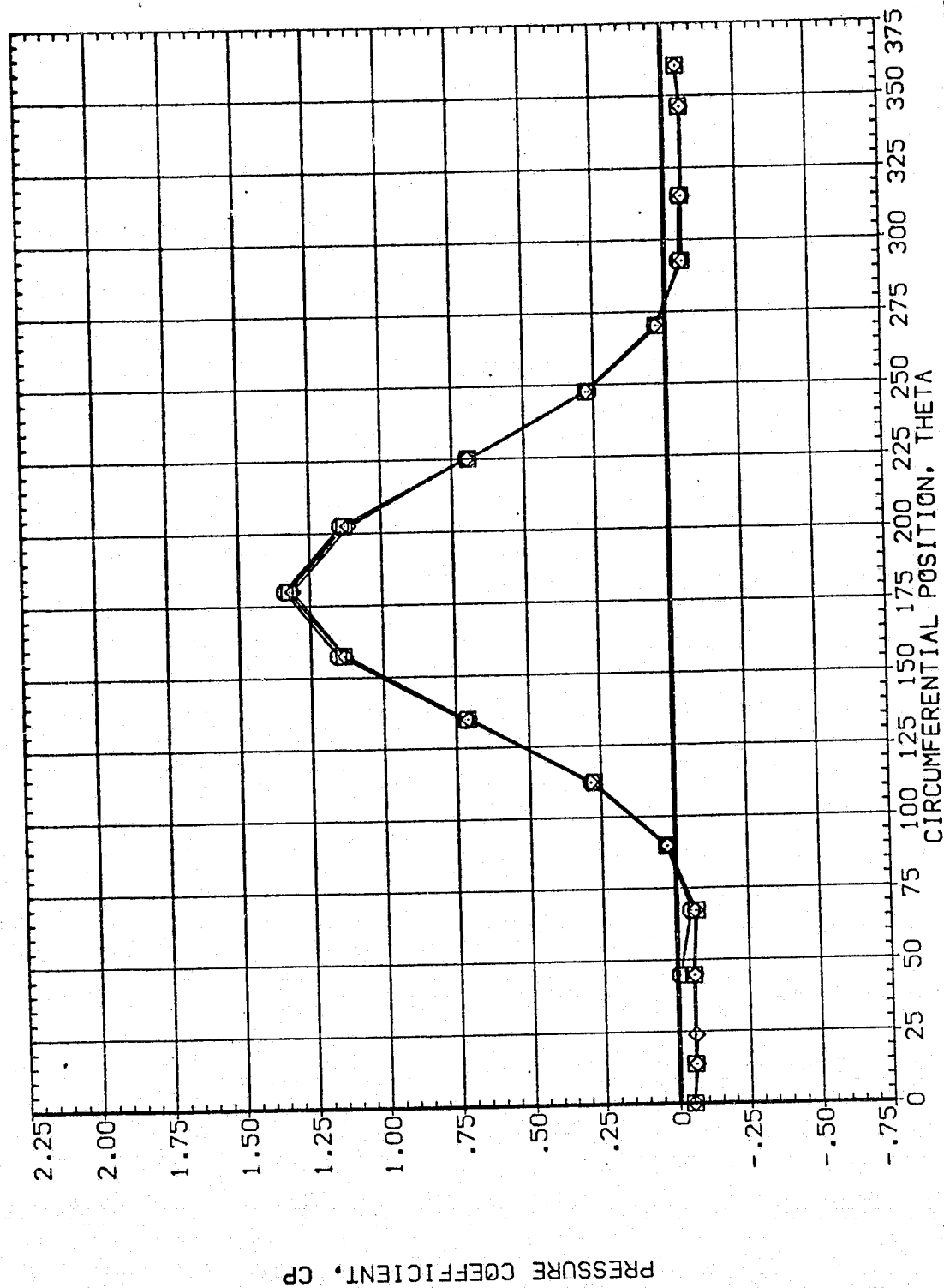


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A064)

SYMBOL  
 ○ □ ◇

X/LB .892  
 ALPHA 60.130  
 MACH 3.480  
 .923  
 .954

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 60.000  
 .000

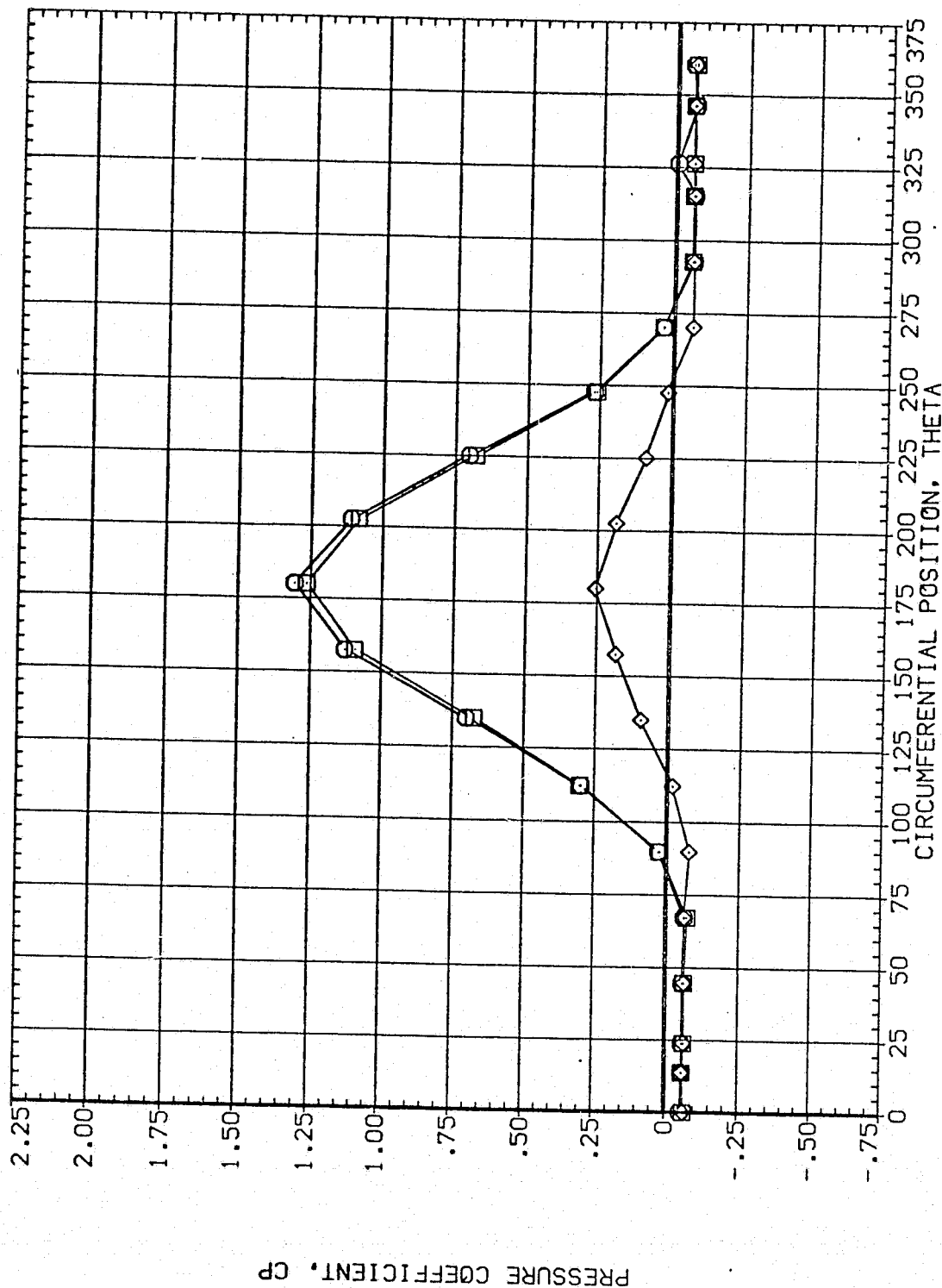


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.055	63.130	3.480	2.000	.000	.000
◇	.108			2.000	.000	.000
◇	.162					

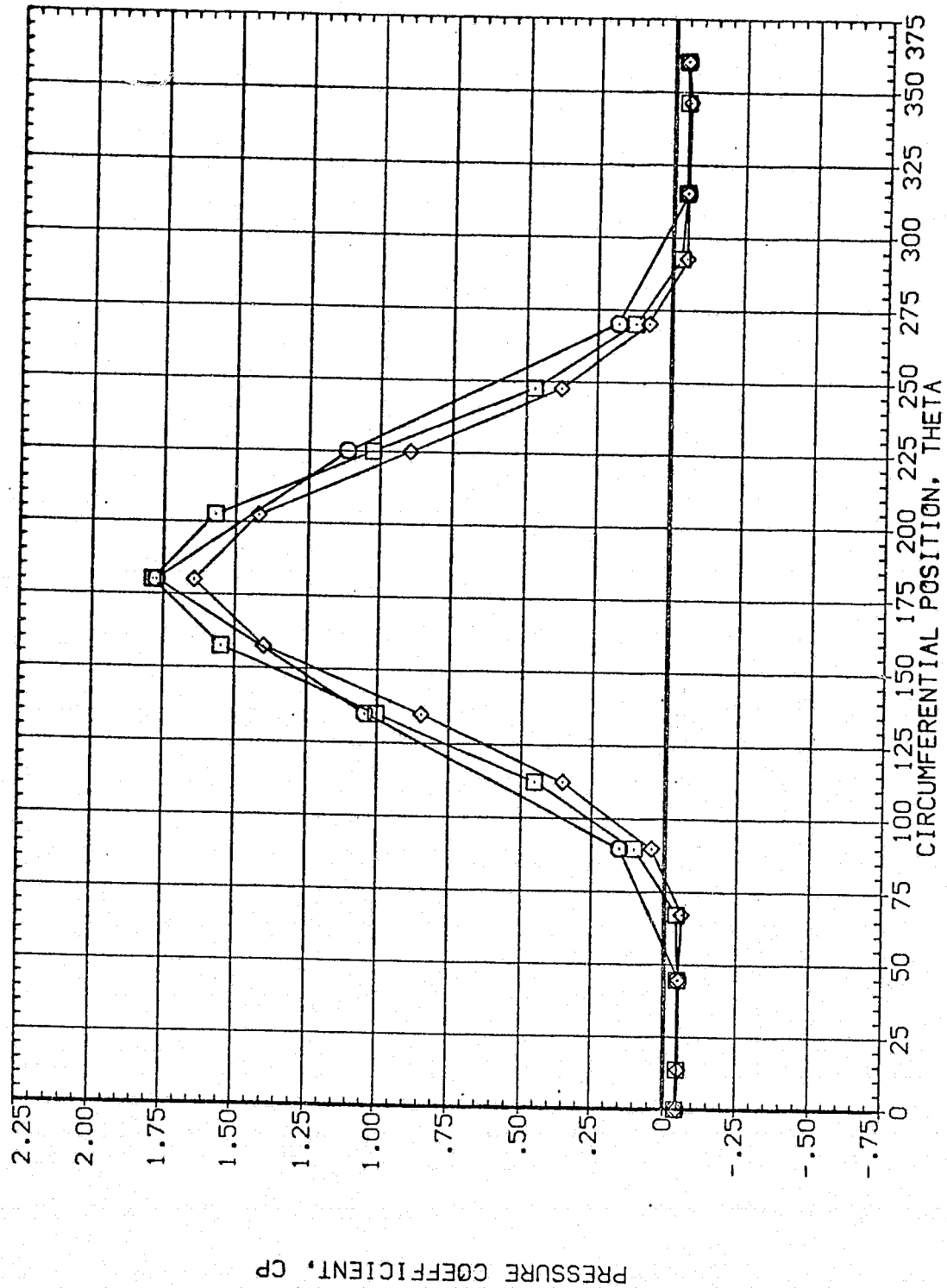


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.216	63.130	3.480	HOUNT	.000	60.000
◇	.322				2.000	.000
◇	.518					

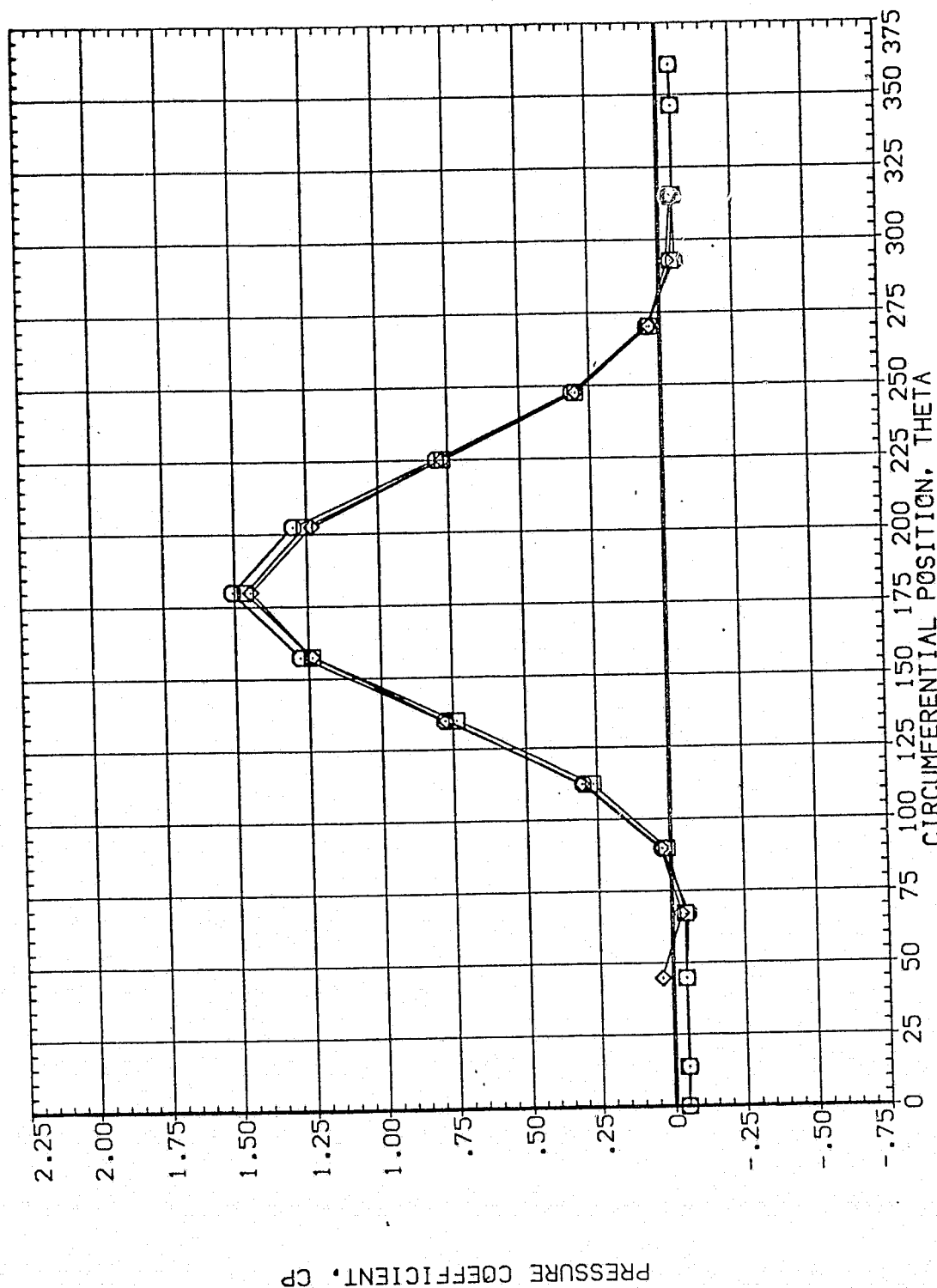


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	63.130	3.480	.000	.000	60.000
□	.735			2.000		.000
◇	.860					

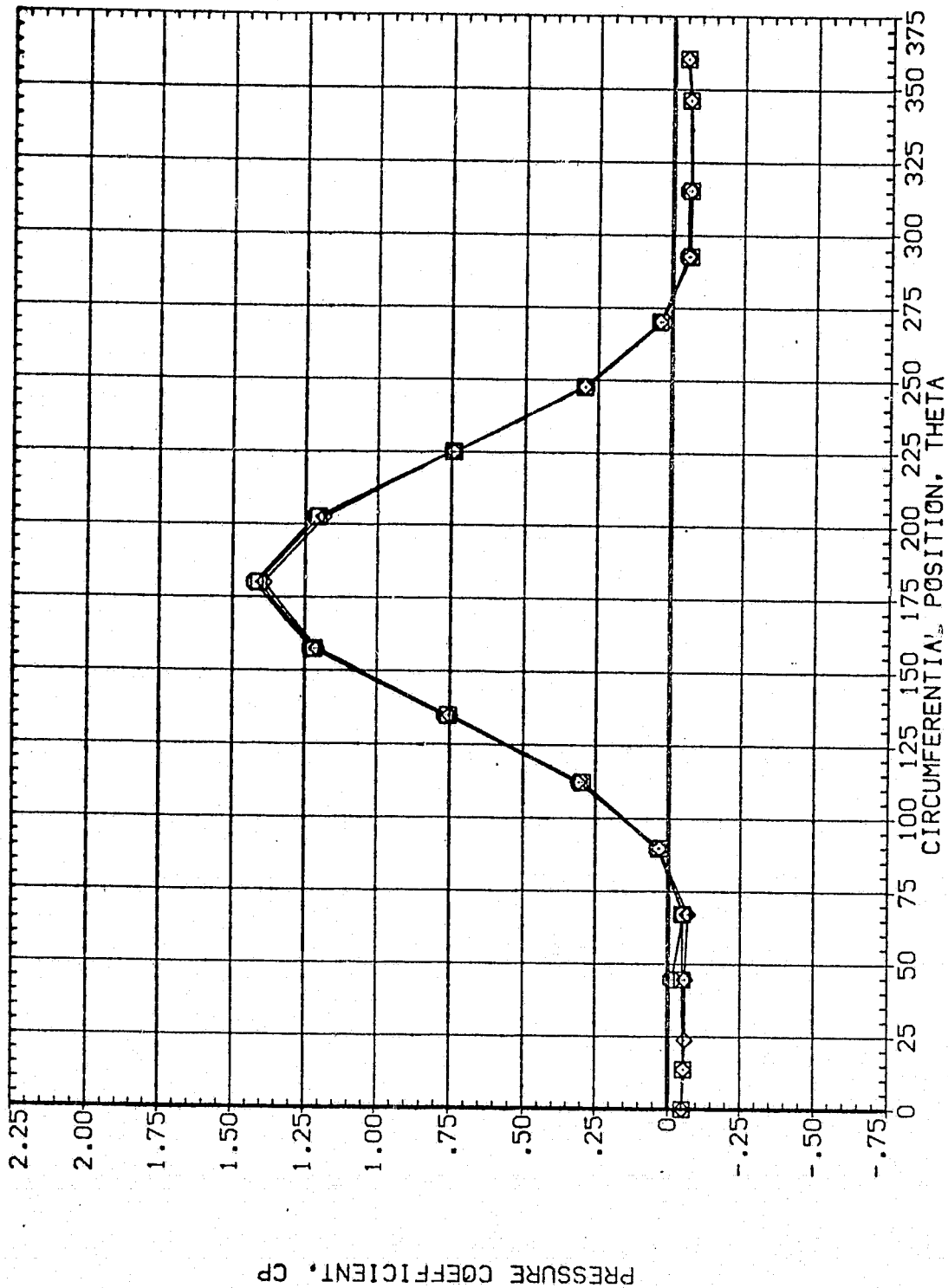


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.892	63.130	3.480	OUNT	.000	.000
□	.923				2.000	
◇	.954					

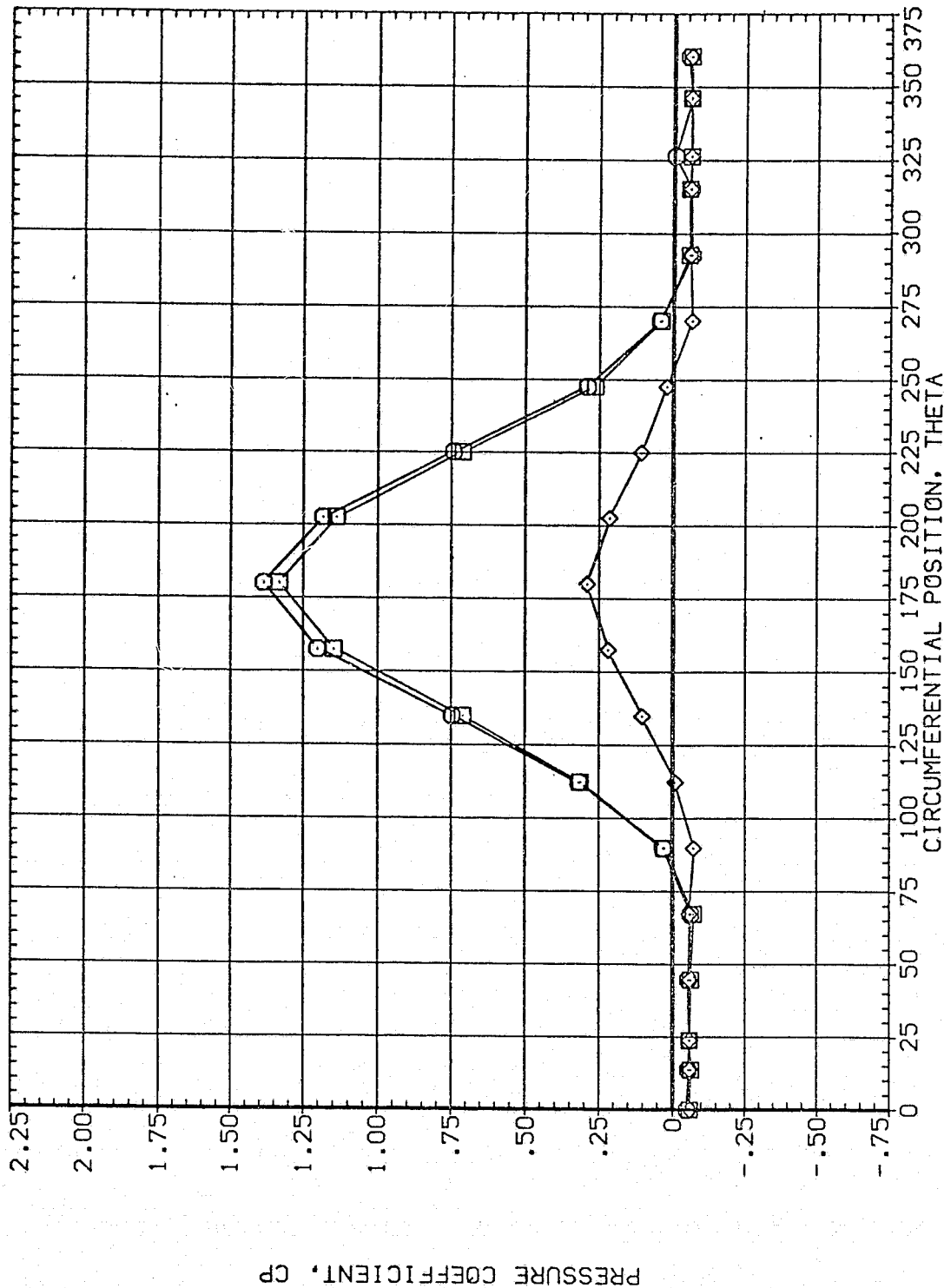


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
				MOUNT	PHI	.000
	.055	66.130	3.480			
	.108					
	.162					

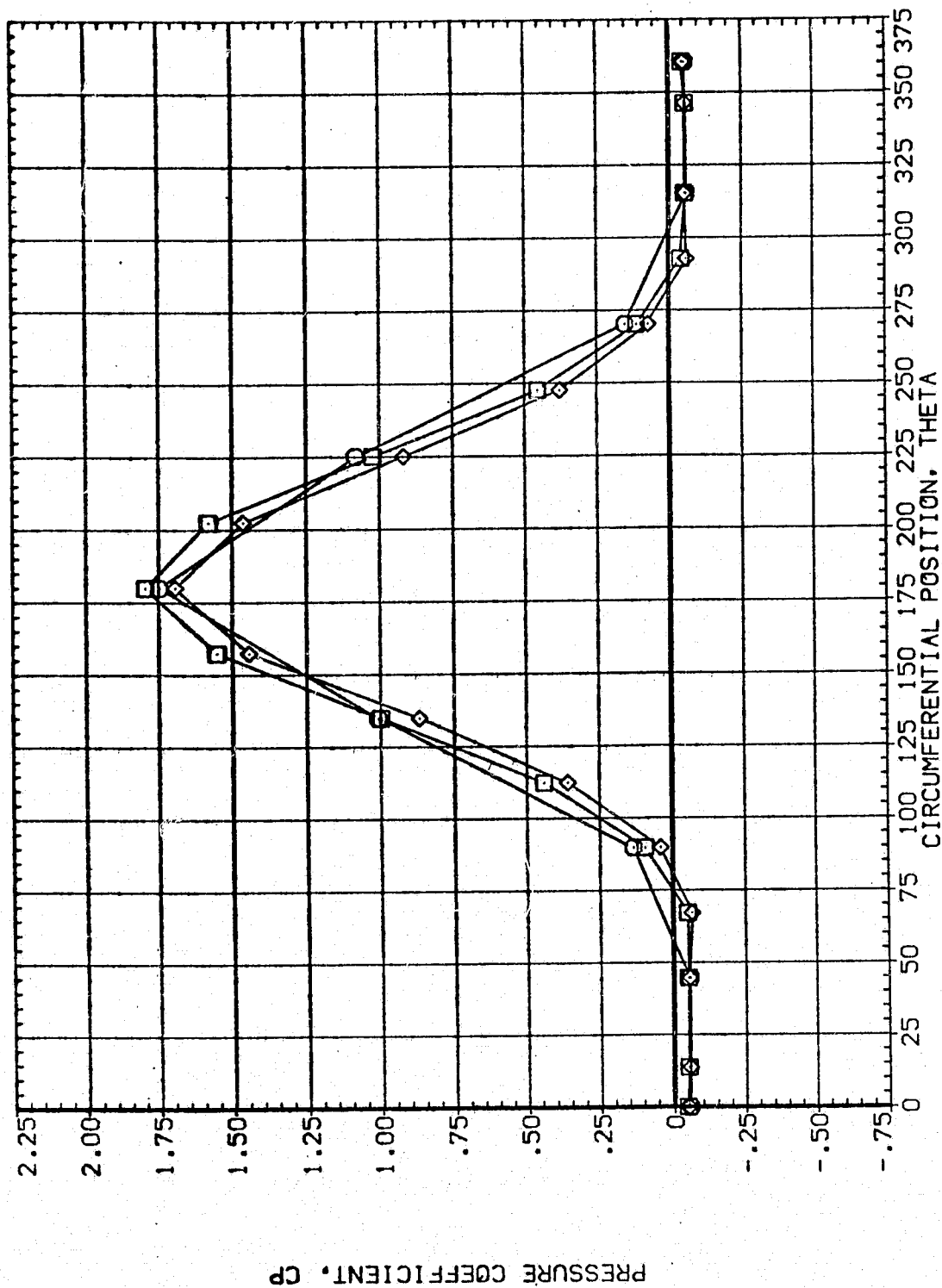


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL  
 ◇  
 □  
 ○

X/LB .216  
 .322  
 .518  
 ALPHA 66.130  
 MACH 3.480

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 .000  
 .000  
 .000  
 .000  
 .000

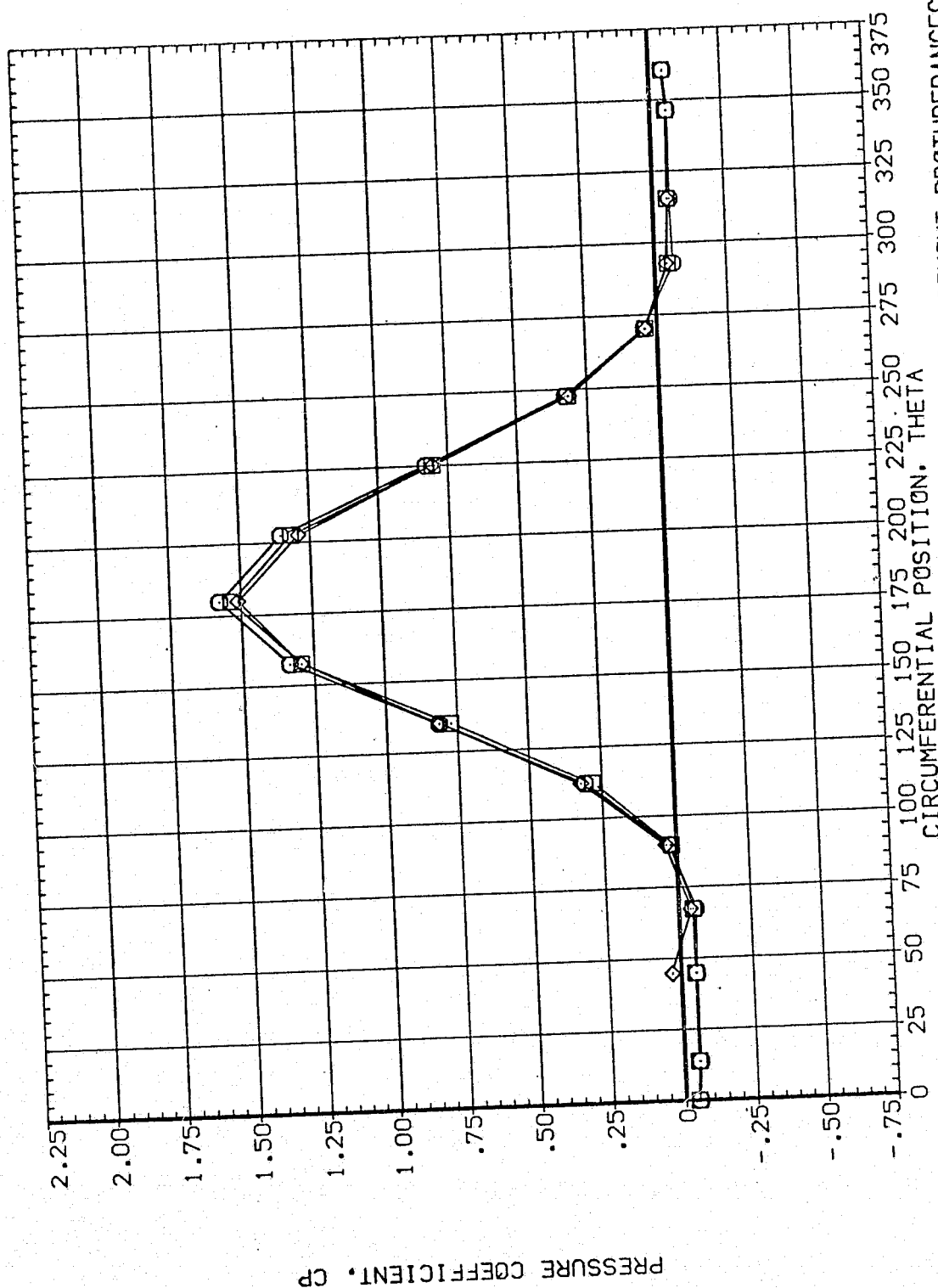


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
 PAGE 2542



# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
				MOUNT	PHI	.000
□	.610	66.130	3.480	2.000		
◇	.735					
◇	.860					

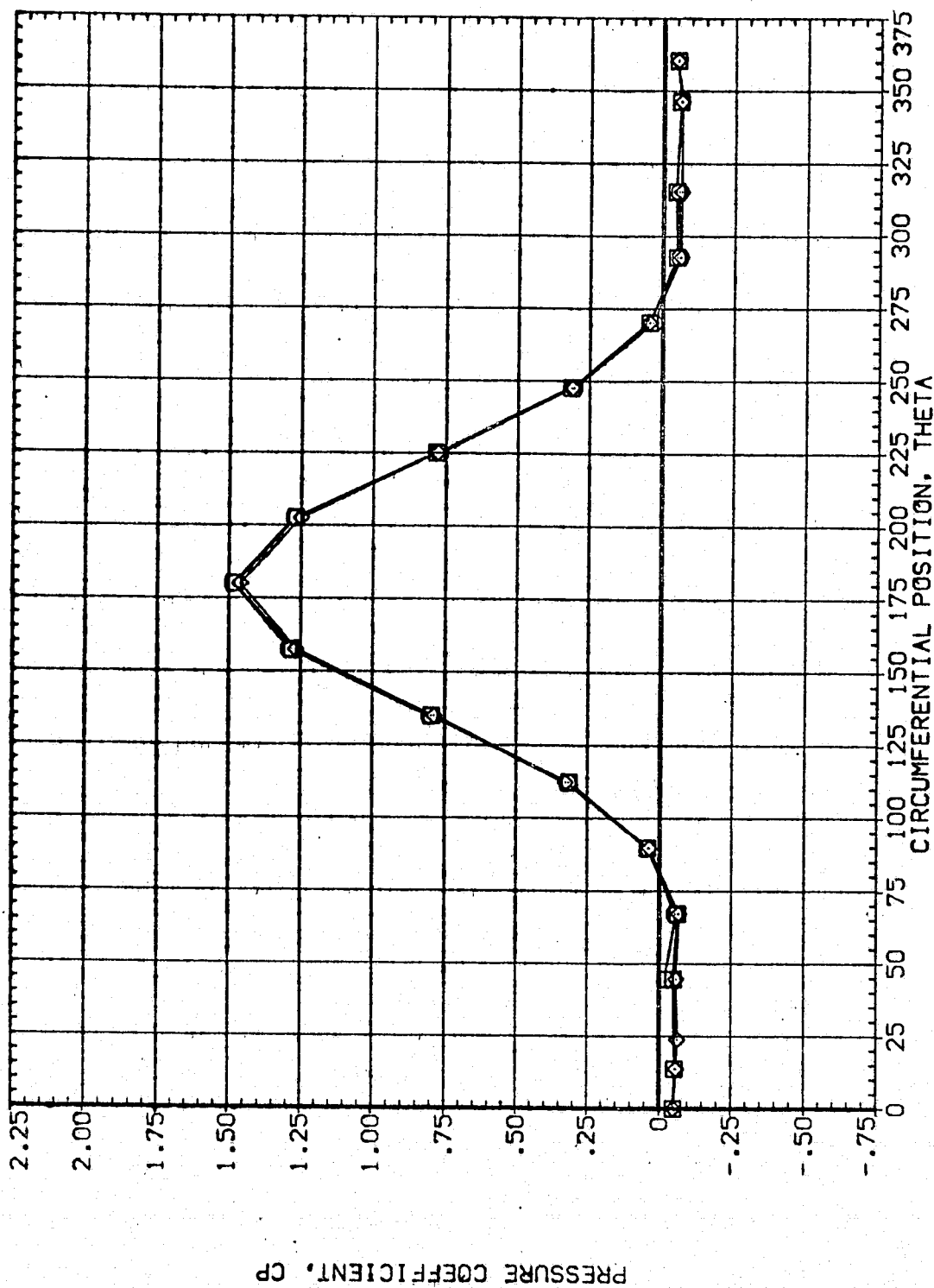


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
○	.892	66.130	3.480	MMOUNT	2.000	PHI
□	.923					
◇	.954					

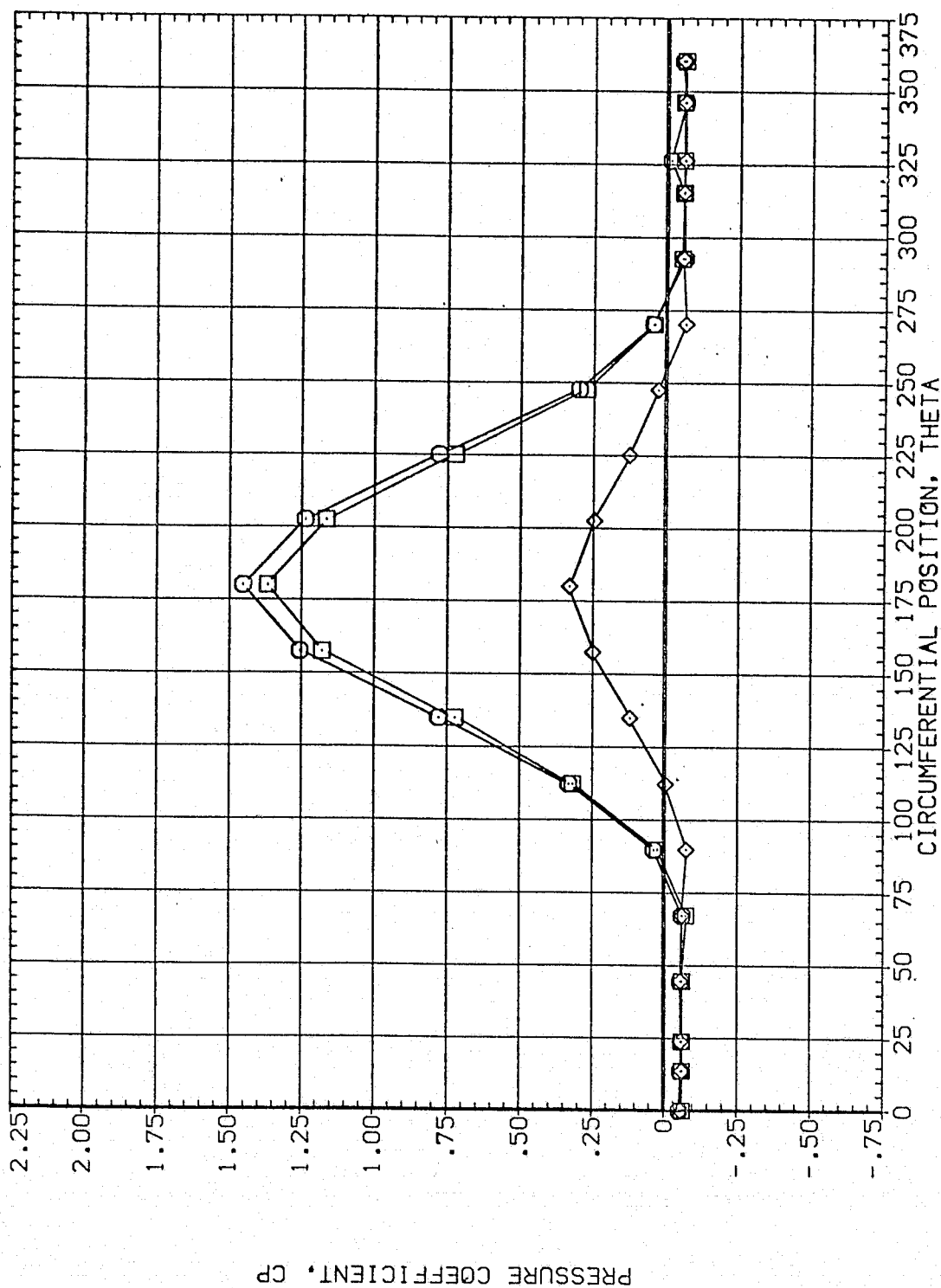


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	60.000
○	.055	69.130	3.480	Mount	2.000	PHI
□	.108					.000
◇	.162					

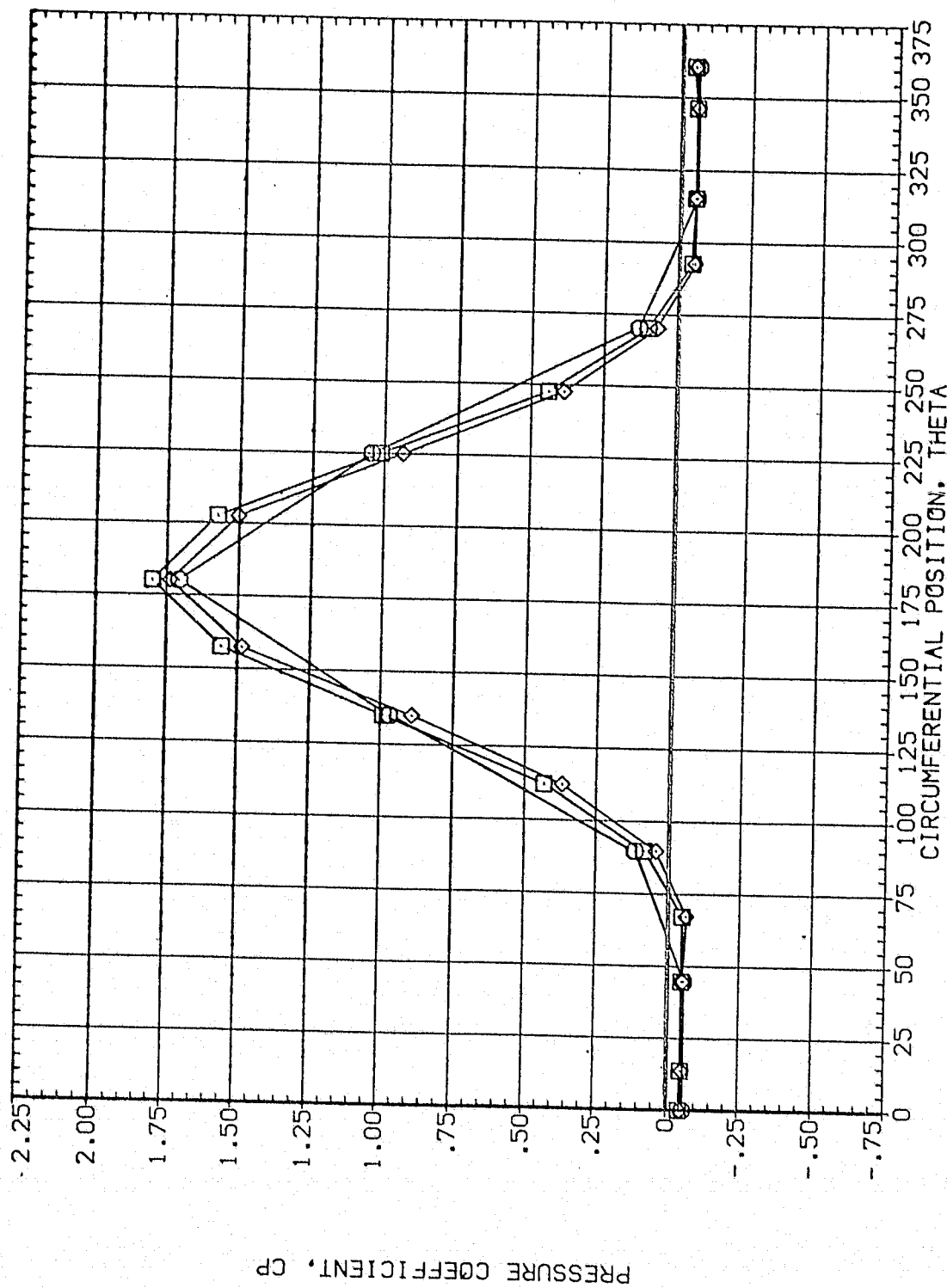


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL  
□  
◇

X/LB .216  
.322  
.518  
ALPHA 69.130  
MACH 3.480

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
OFFSET PHI 60.000  
.002

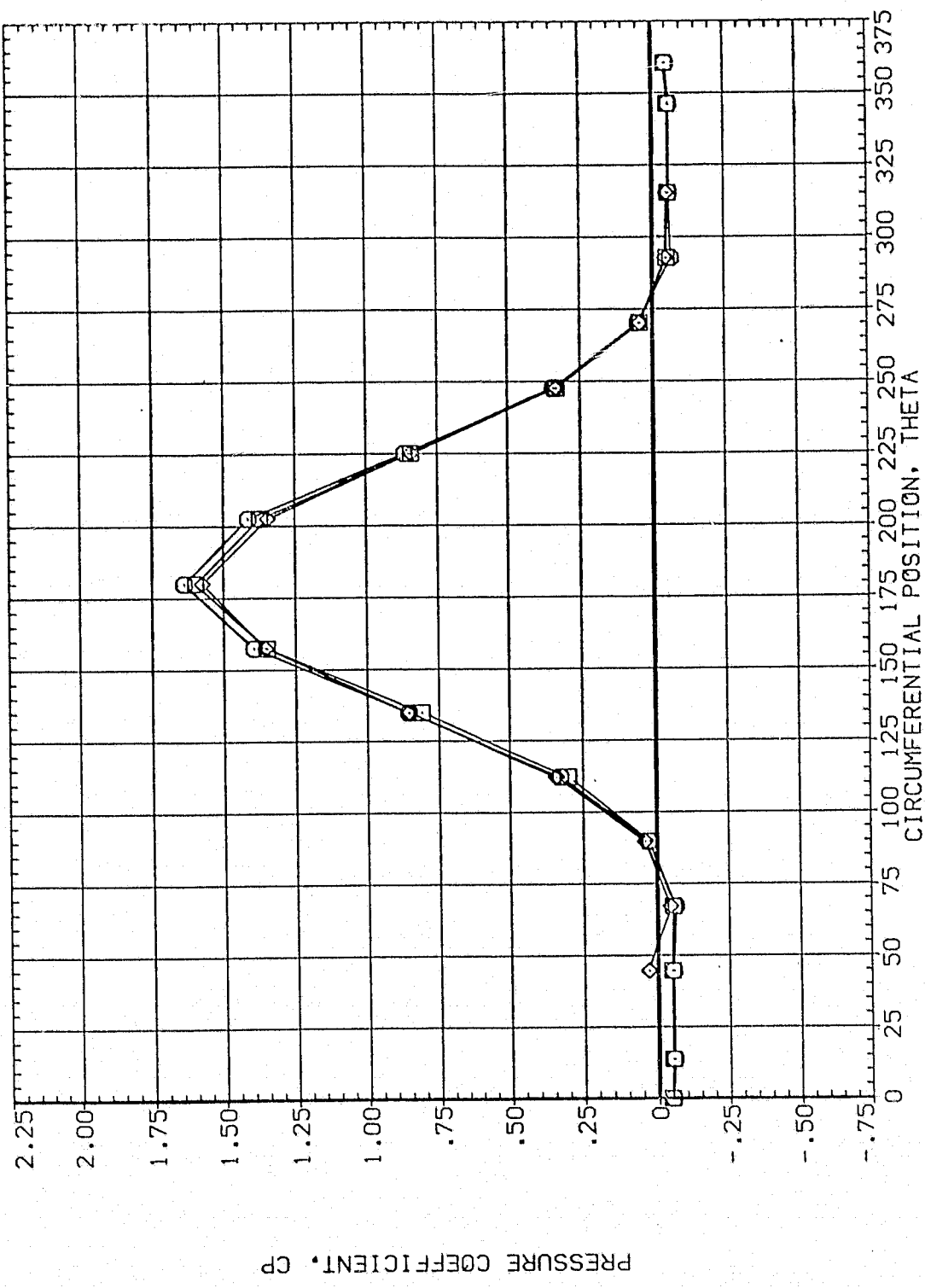


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2546

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.610	69.130	3.480	MOUNT	.000	60.000
◇	.735				2.000	.000
◇	.860					

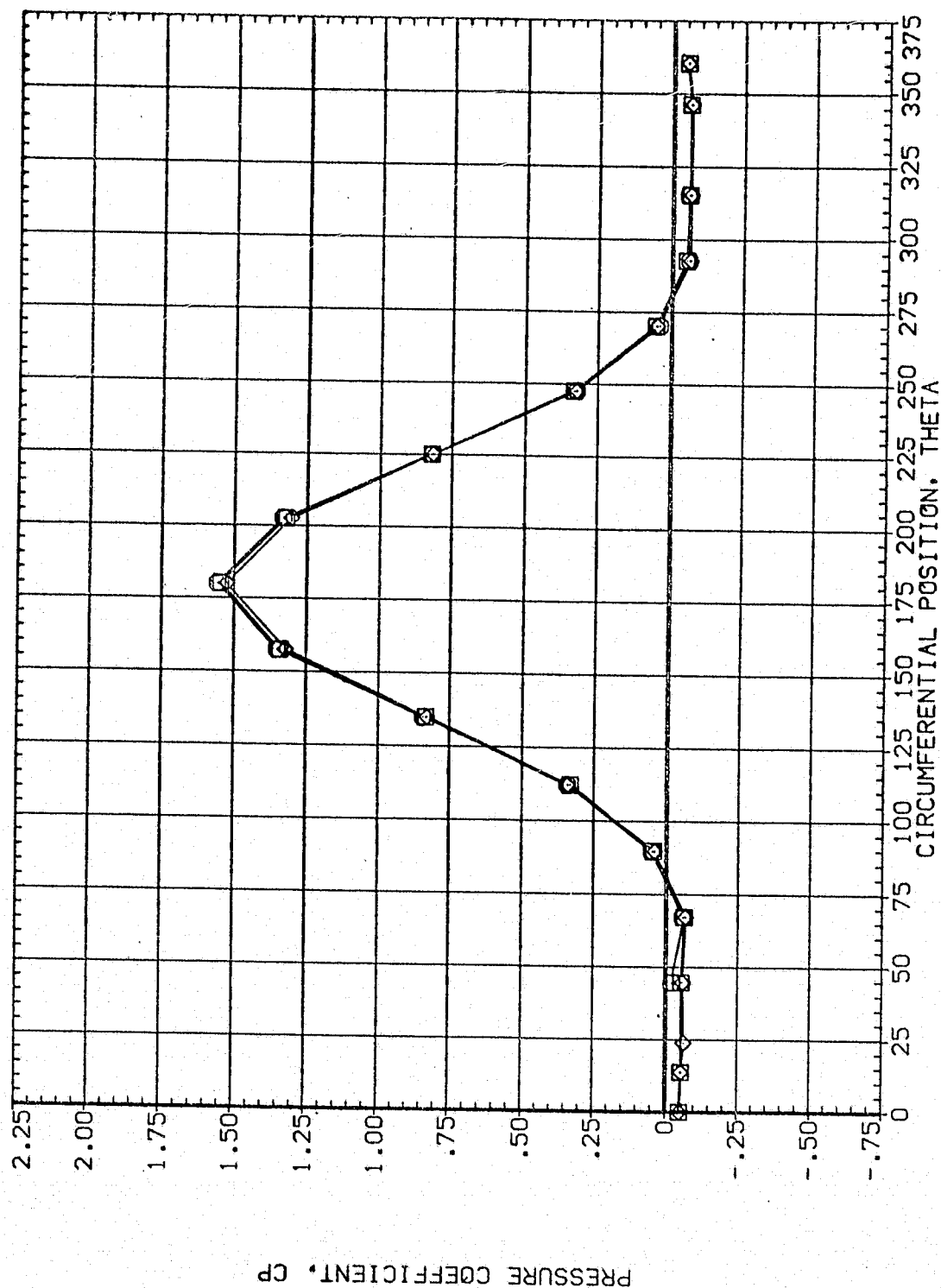


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	69.130	3.480	MOUNT	.000 OFFSET
□	.923				2.000 PHI
◇	.954				60.000

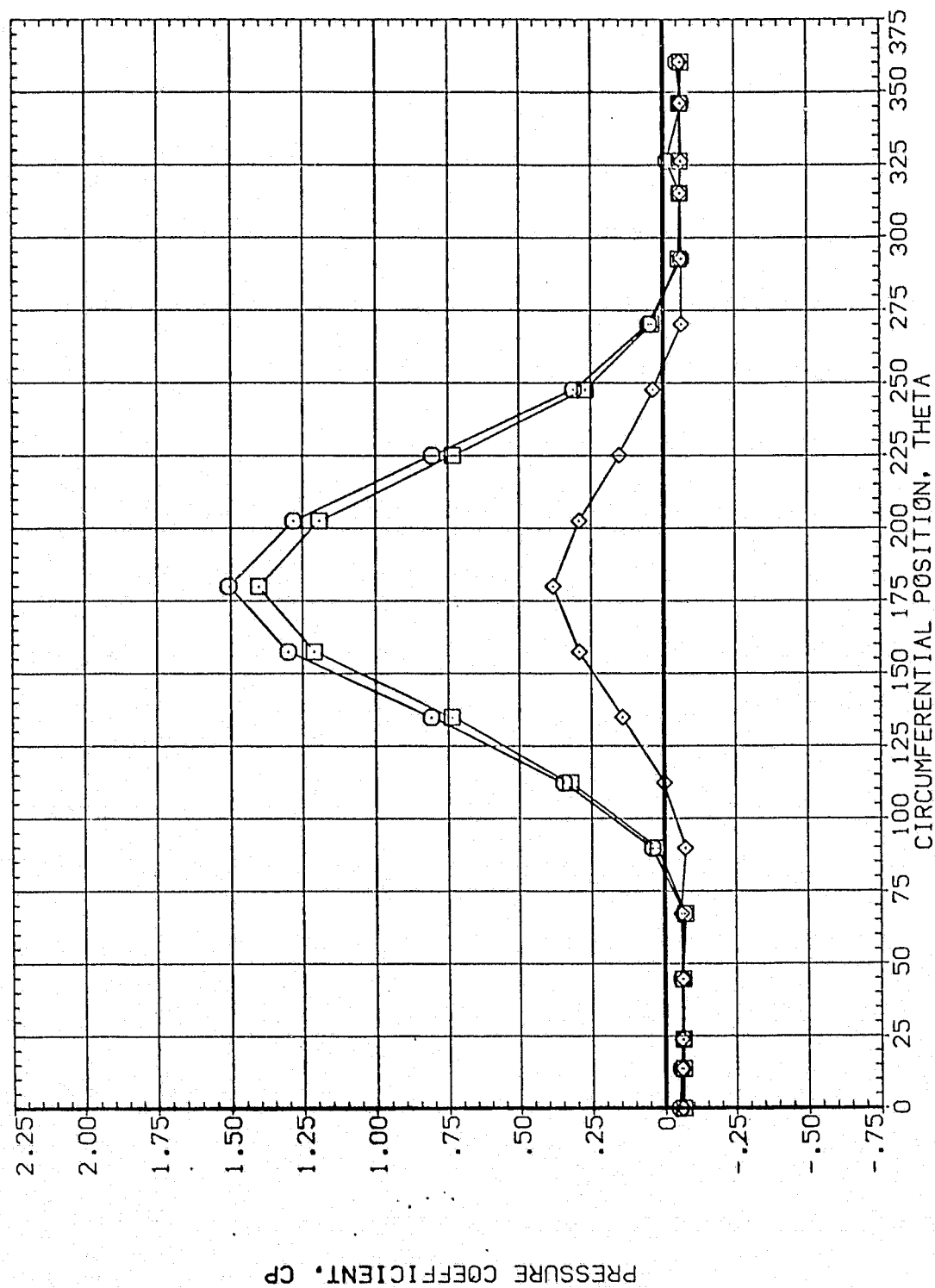


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2548

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL X/LB ALPHA MACH  
 □ .055 69.980 3.480  
 ○ .108  
 ◇ .162

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

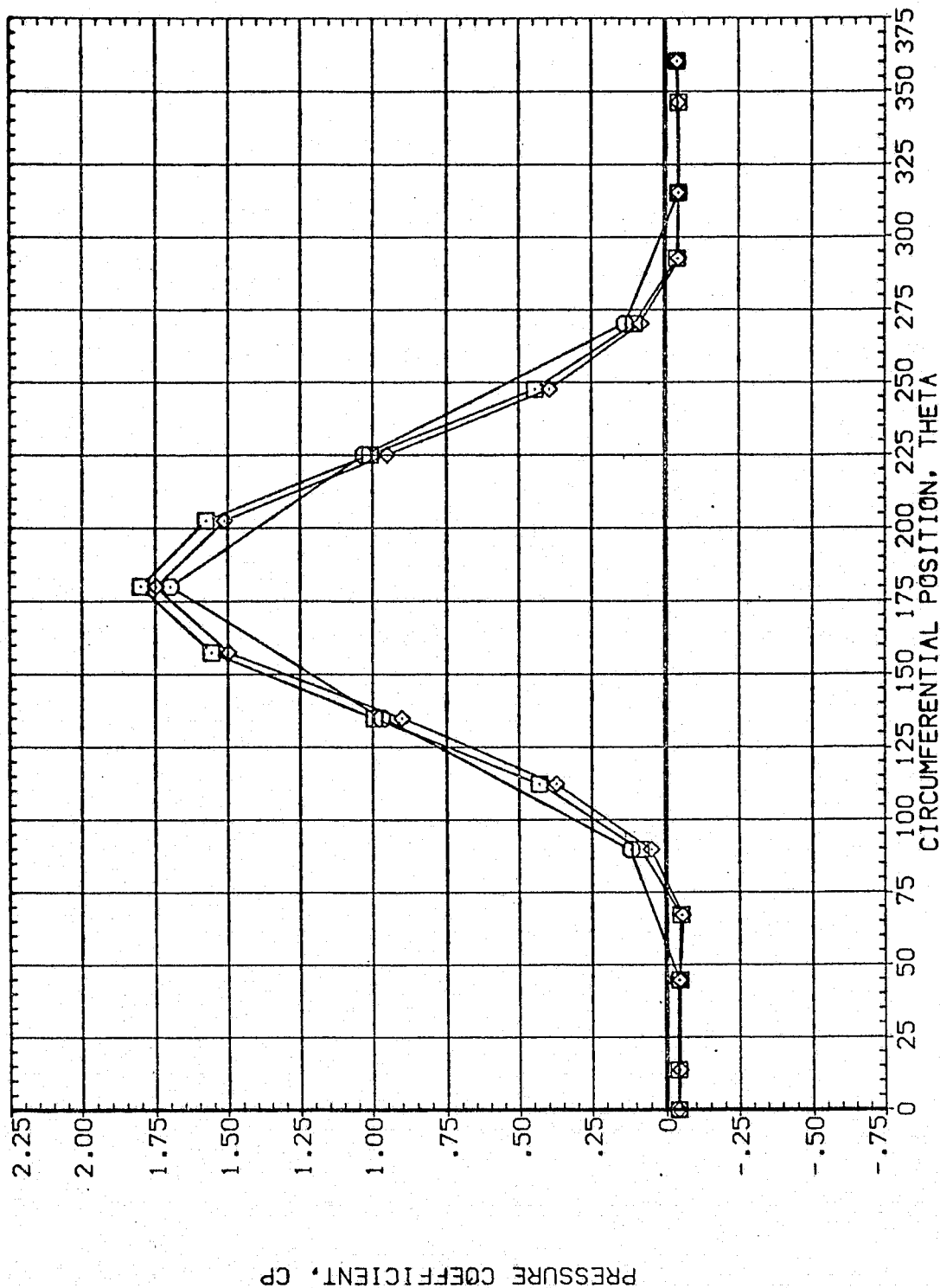


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.216	69.980	3.480	MOUNT	.000	80.000
□	.322				2.000	
◇	.518					.000

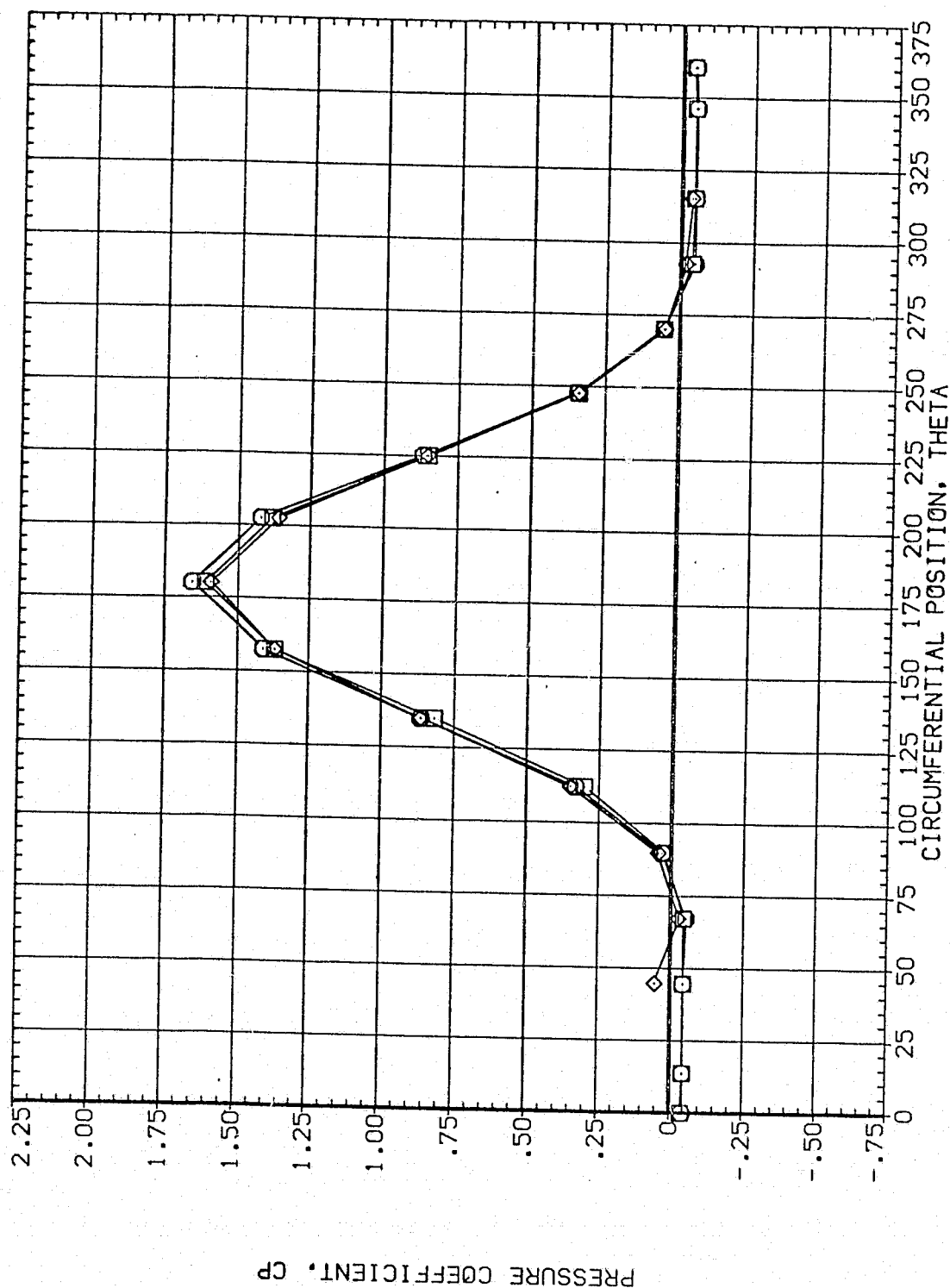


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.610	69.980	3.480	MOUNT	.000	80.000
◇	.735				2.000	.000
◇	.860					

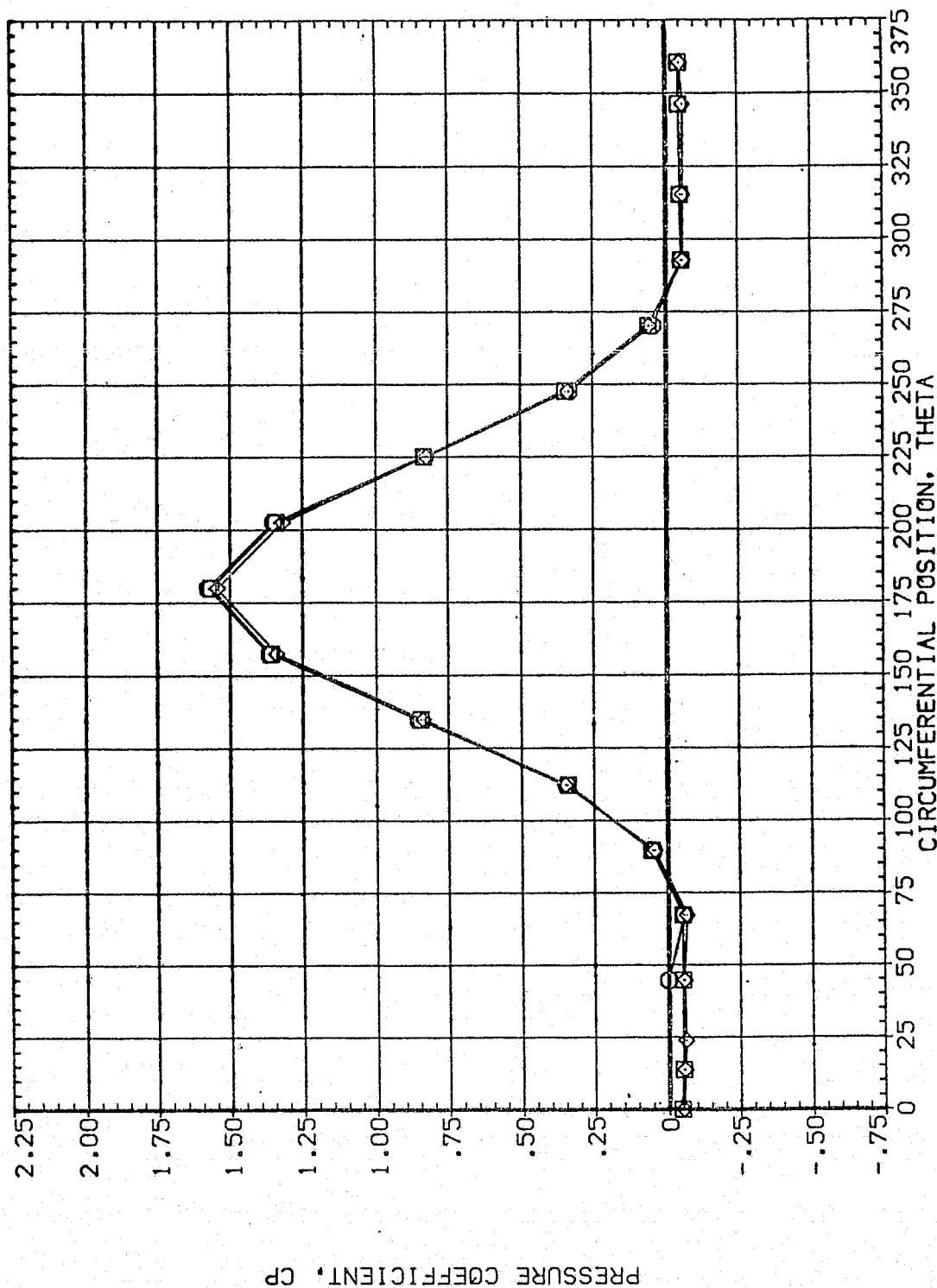


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL  
 ○ □ ◇

X/LB .892  
 .923  
 .954  
 ALPHA 69.980  
 MACH 3.480

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 80.000  
 .000

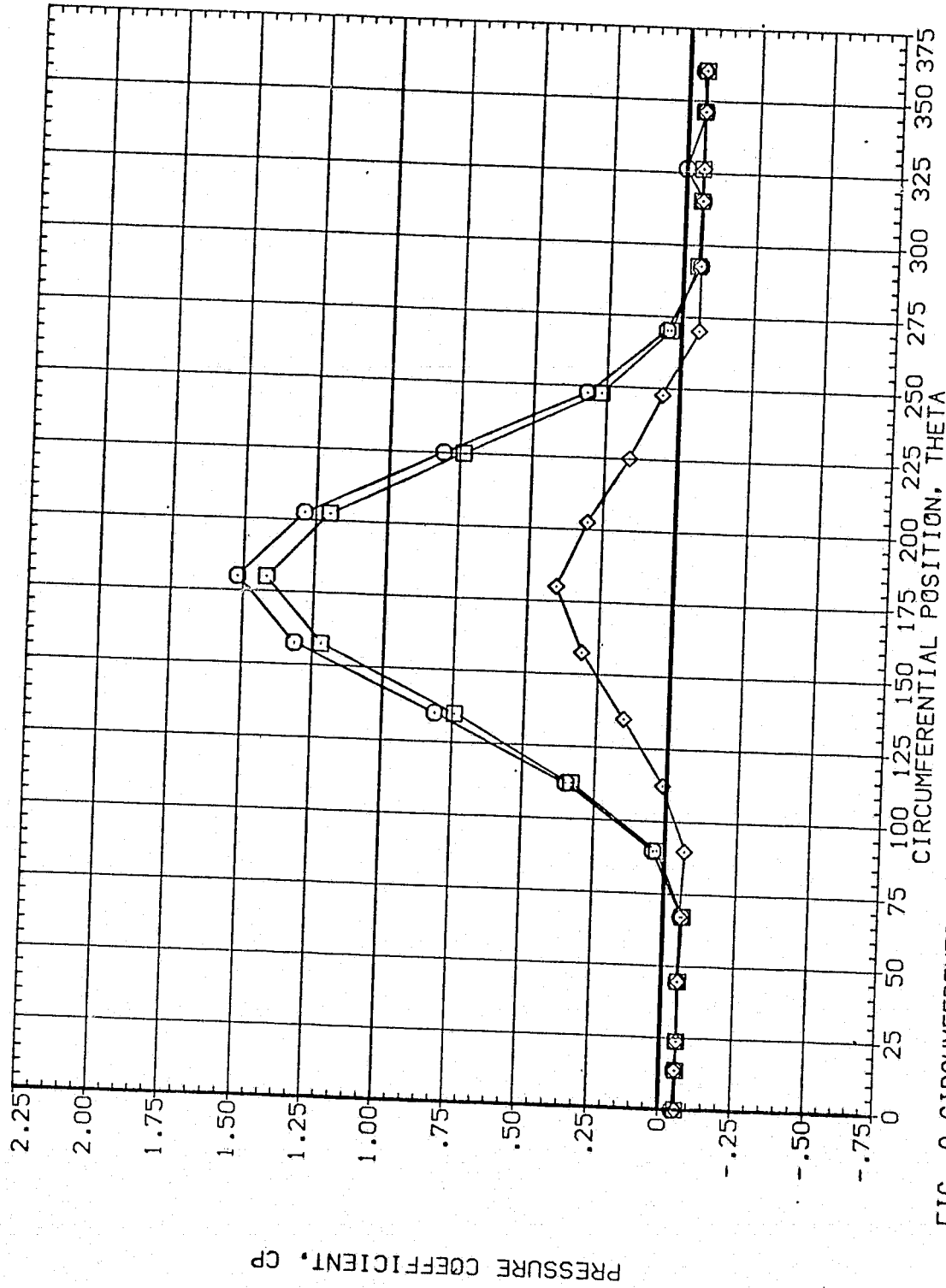


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
 PAGE 2552

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBOL	X/LB	ALPHA	HACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.055	71.880	3.480	.000	.000	80.000
◇	.108			2.000		
◇	.162					

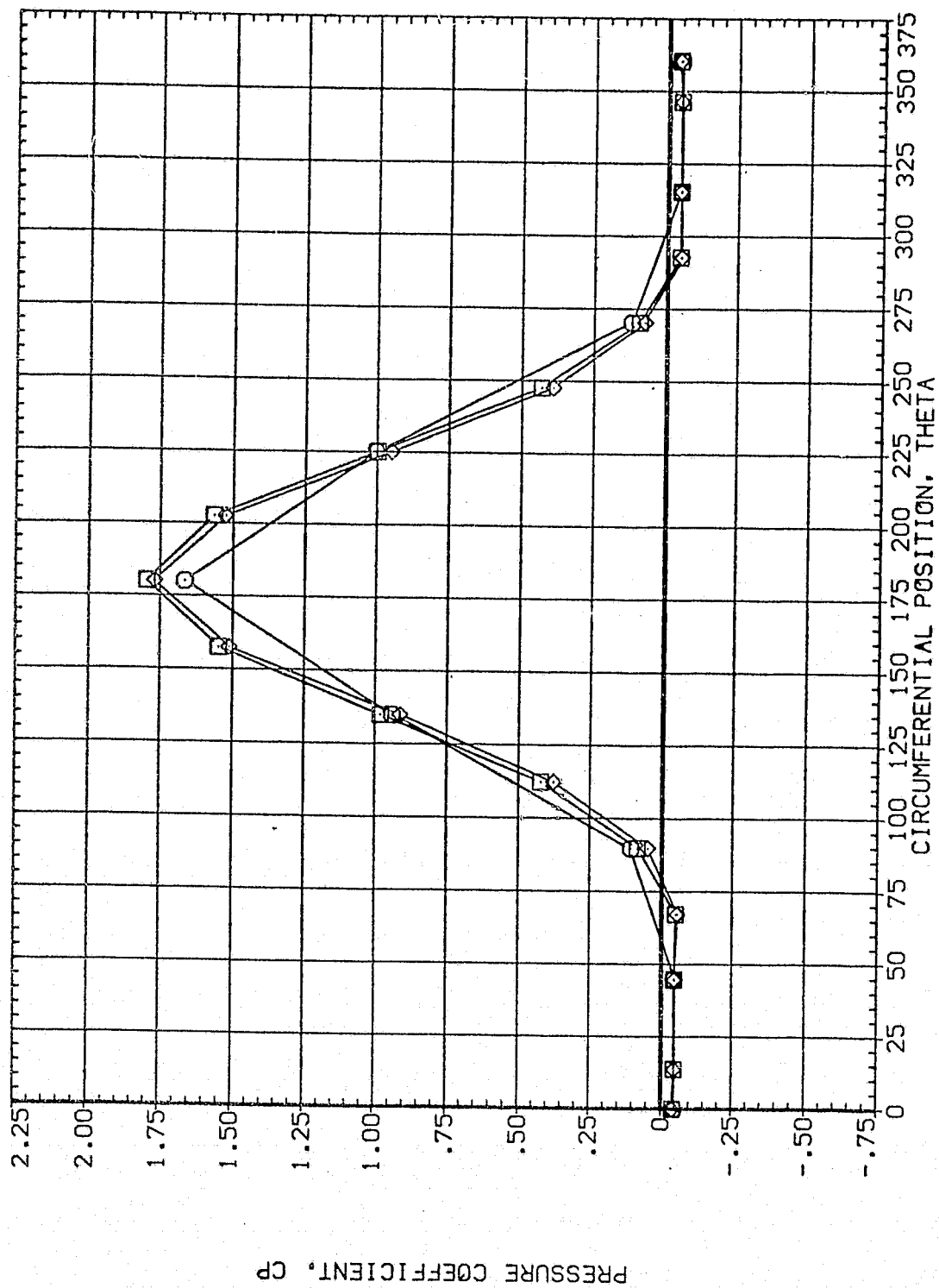


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBOL

X/LB

ALPHA

MACH

.216  
.322  
.518

BETA  
MOUNT

.000  
2.000

PARAHETRIC VALUES  
OFFSET  
PHI

80.000  
.000

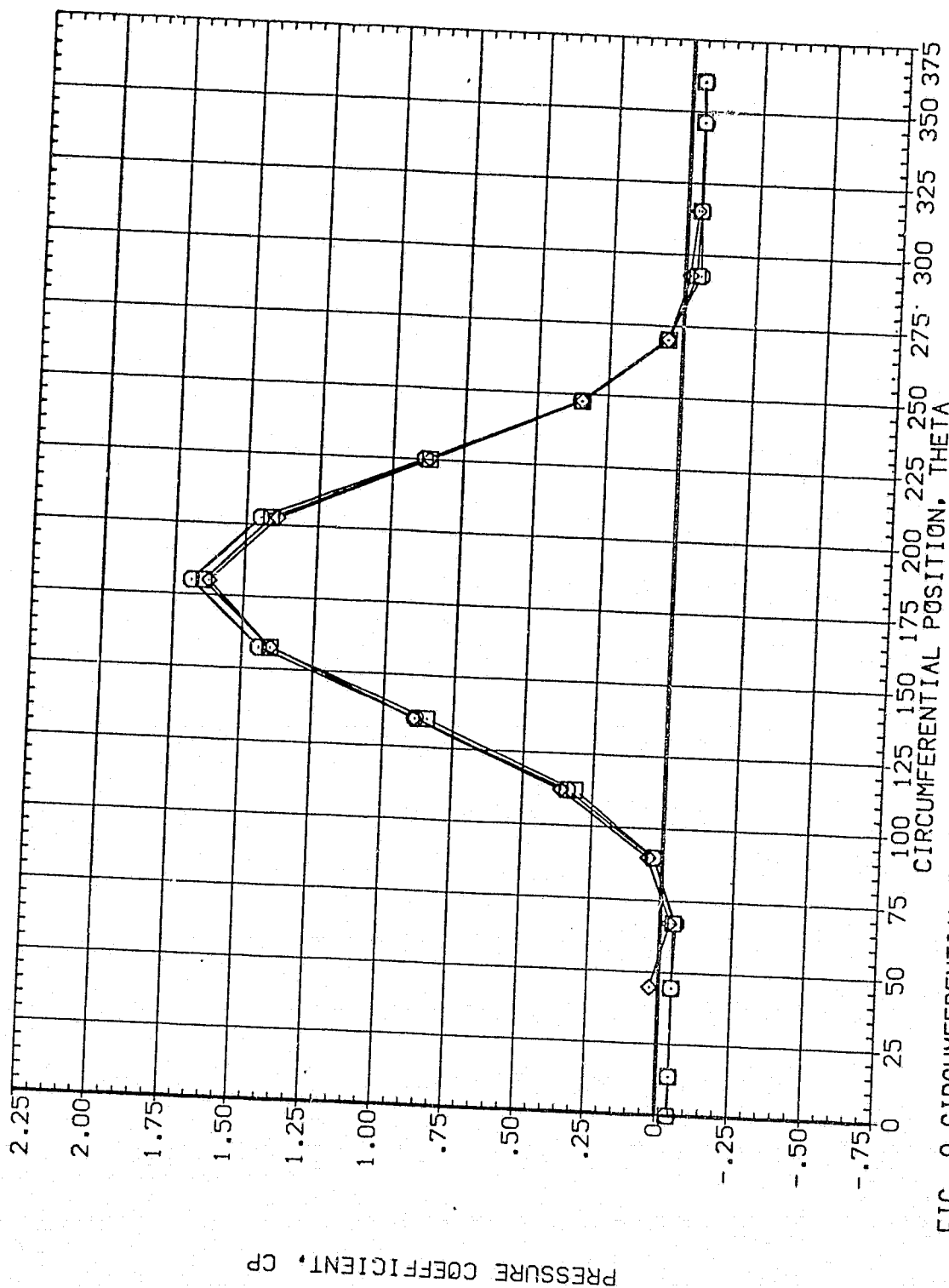


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 PHI 80.000  
 .000

SYMBOL X/LB ALPHA MACH  
 .610 71.880 3.480  
 .735  
 .860

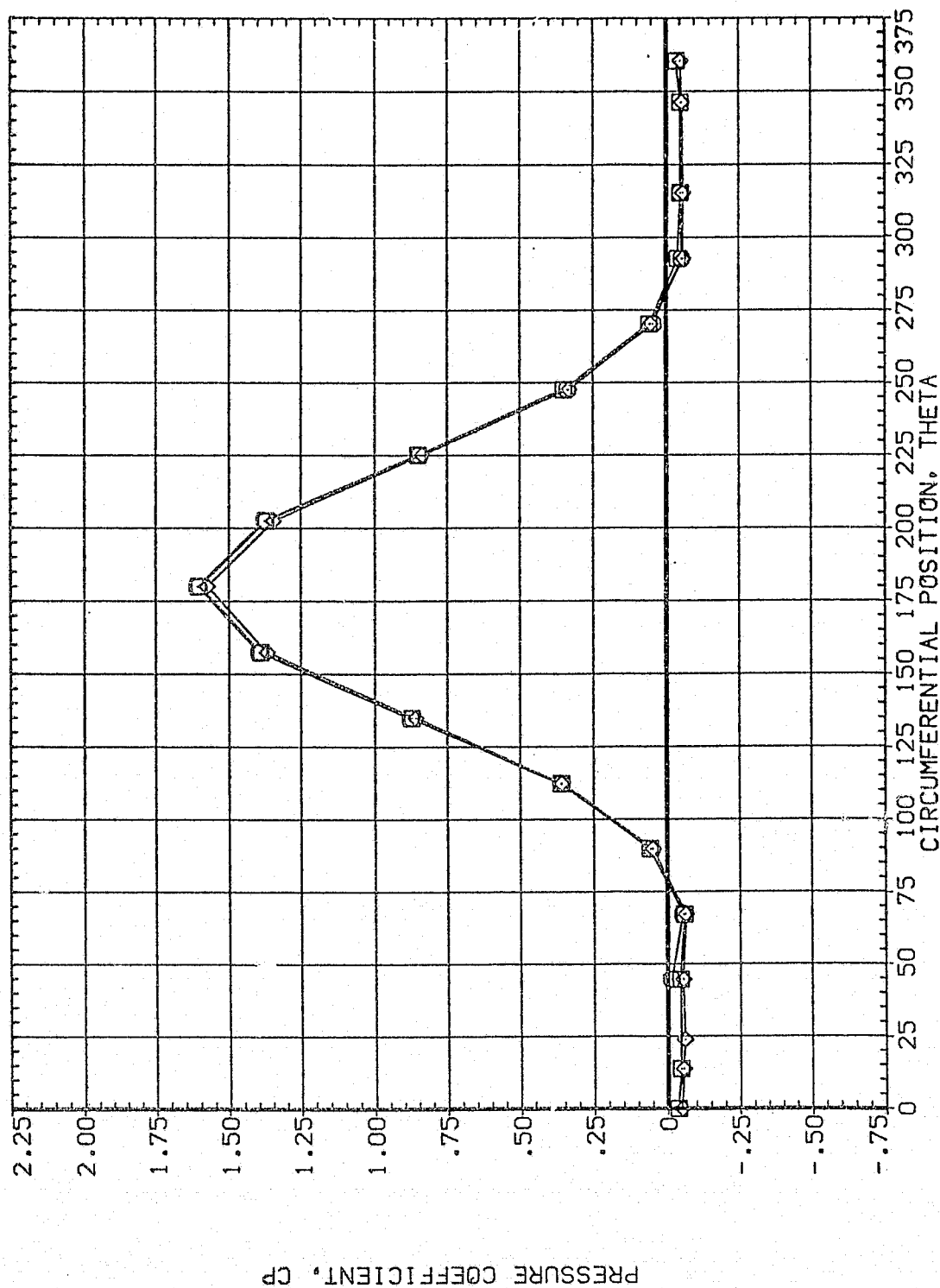


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK. T2 (P1A069)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.892	71.880	3.480		.000	80.000
□	.923			Mount	2.000	.000
◇	.954					

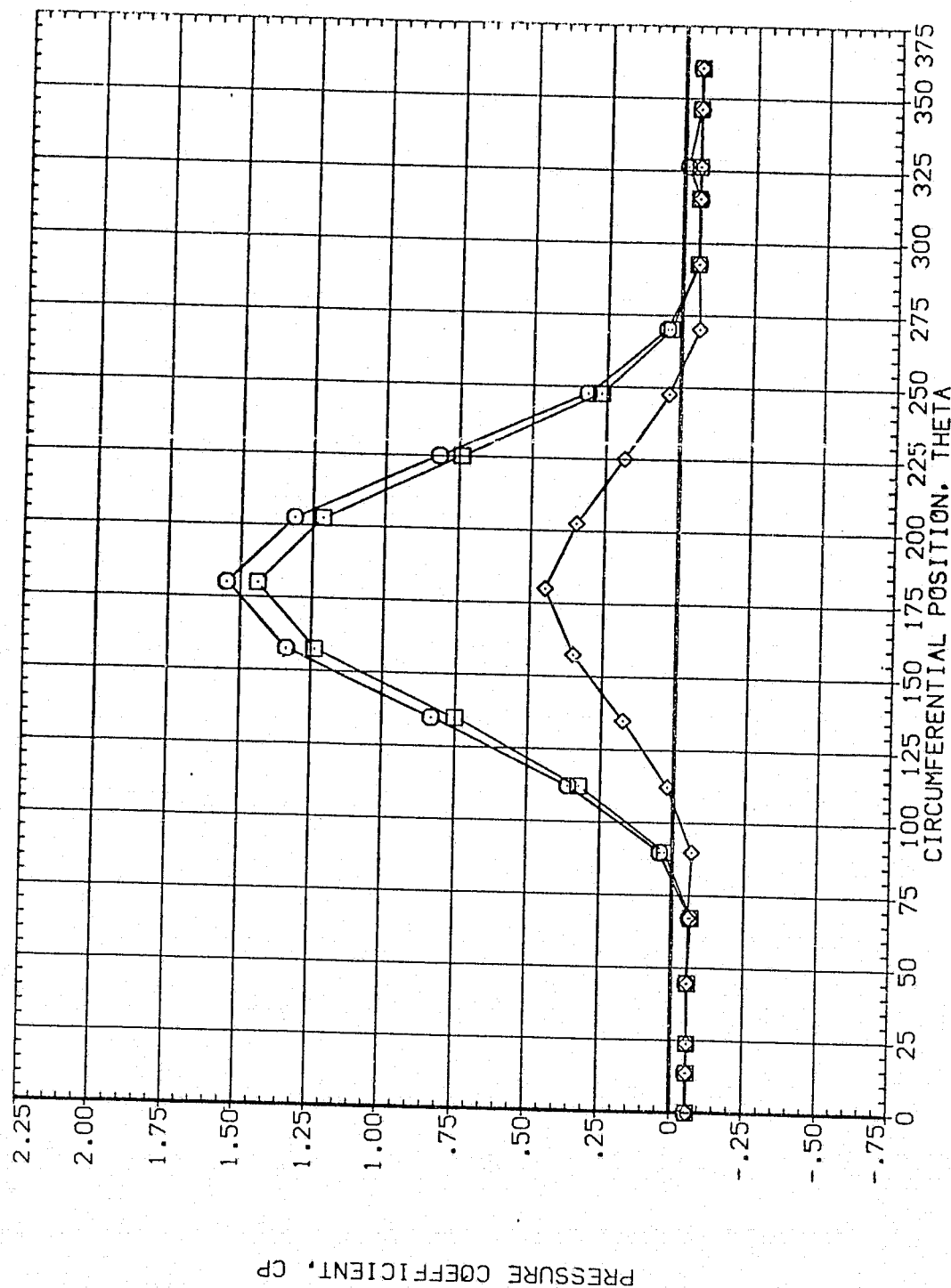


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A070)

SYMBOL  
□  
◇

X/LB .055  
.108  
.162

ALPHA 74.860

MACH 3.480

BETA  
MOUNT

PARAMETRIC VALUES  
.000 .000  
2.000 PHI 80.000 .000

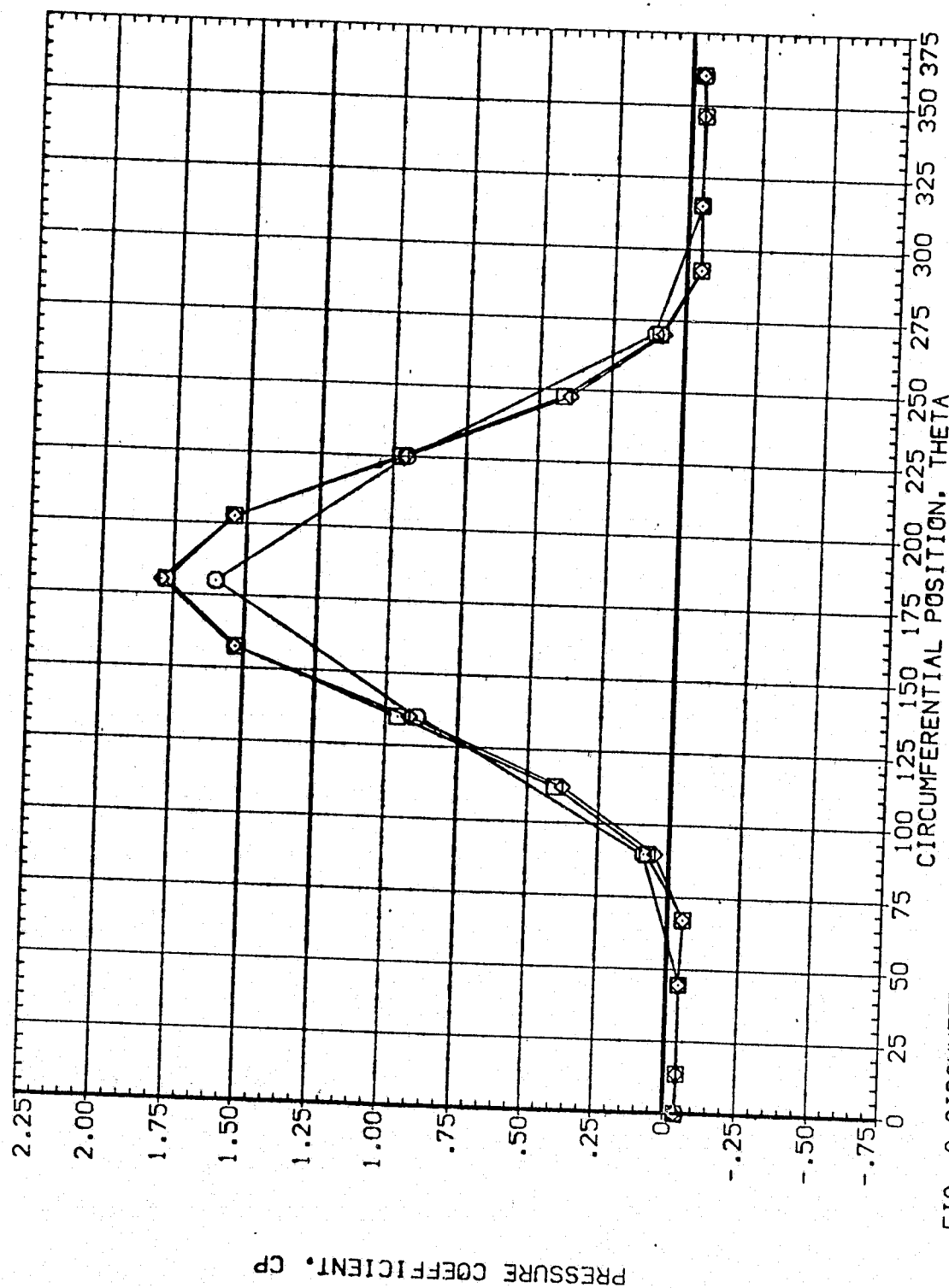


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL X/LB ALPHA MACH  
 O .216 74.860 3.480  
 □ .322  
 ◇ .518

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 80.000  
 .000

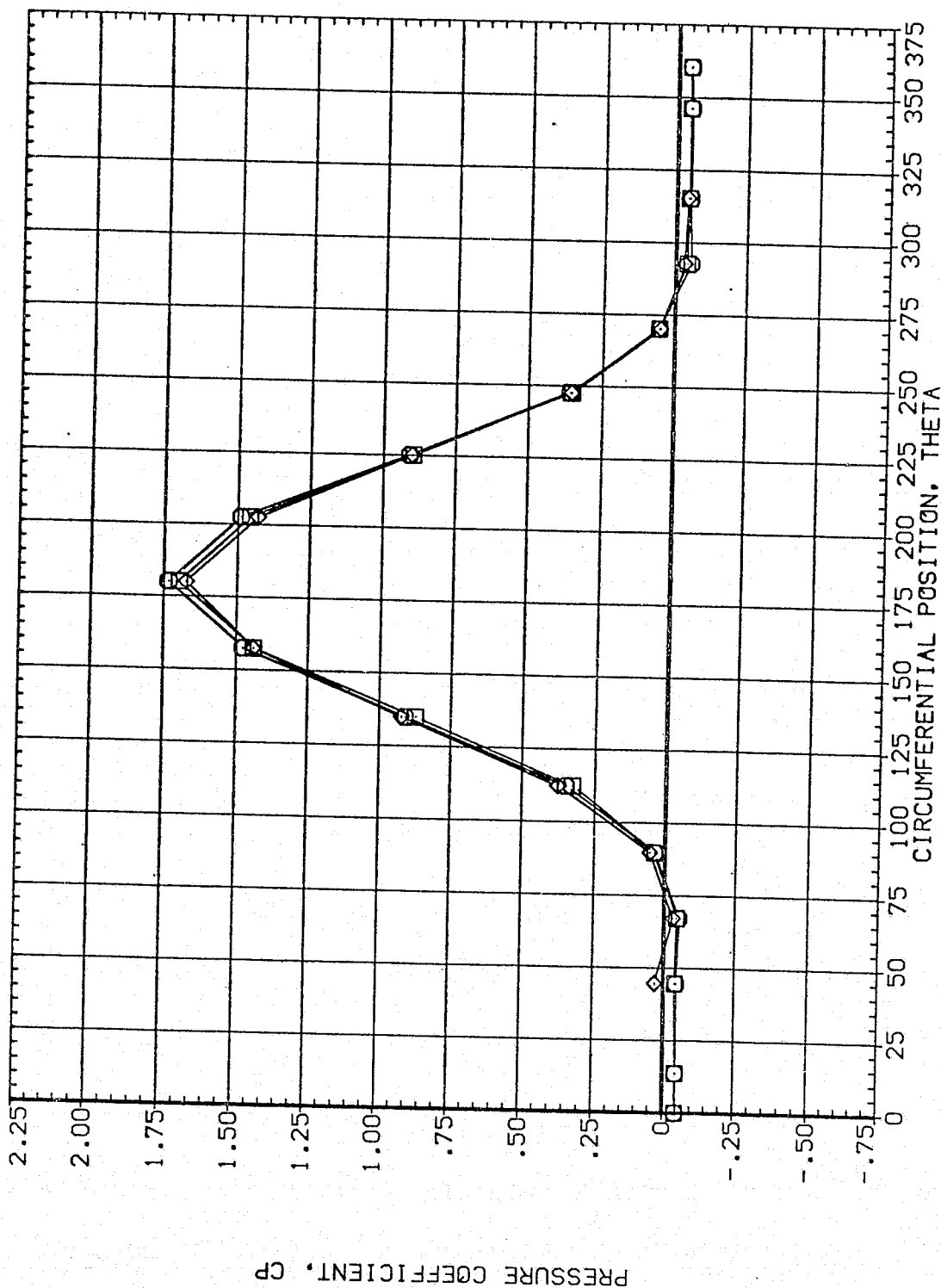


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK. T2

(P1A070)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.510	74.860	3.480	MOUNT	.000	80.000
□	.735				2.000	
◇	.860					.000

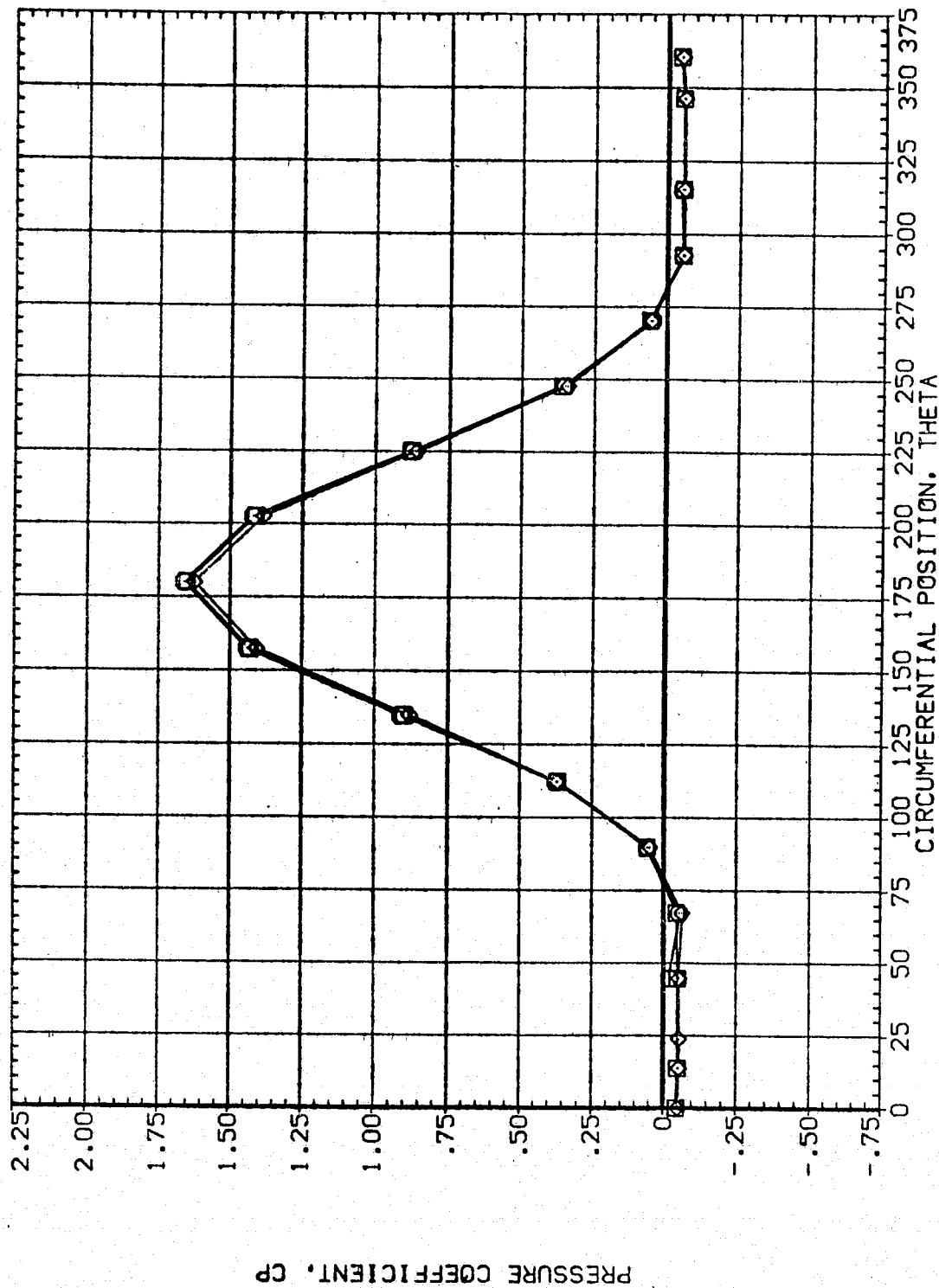


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL  
 □  
 ◇

X/LB .892  
 .923  
 .954  
 ALPHA 74.860  
 HACH 3.480

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI  
 80.000  
 .000

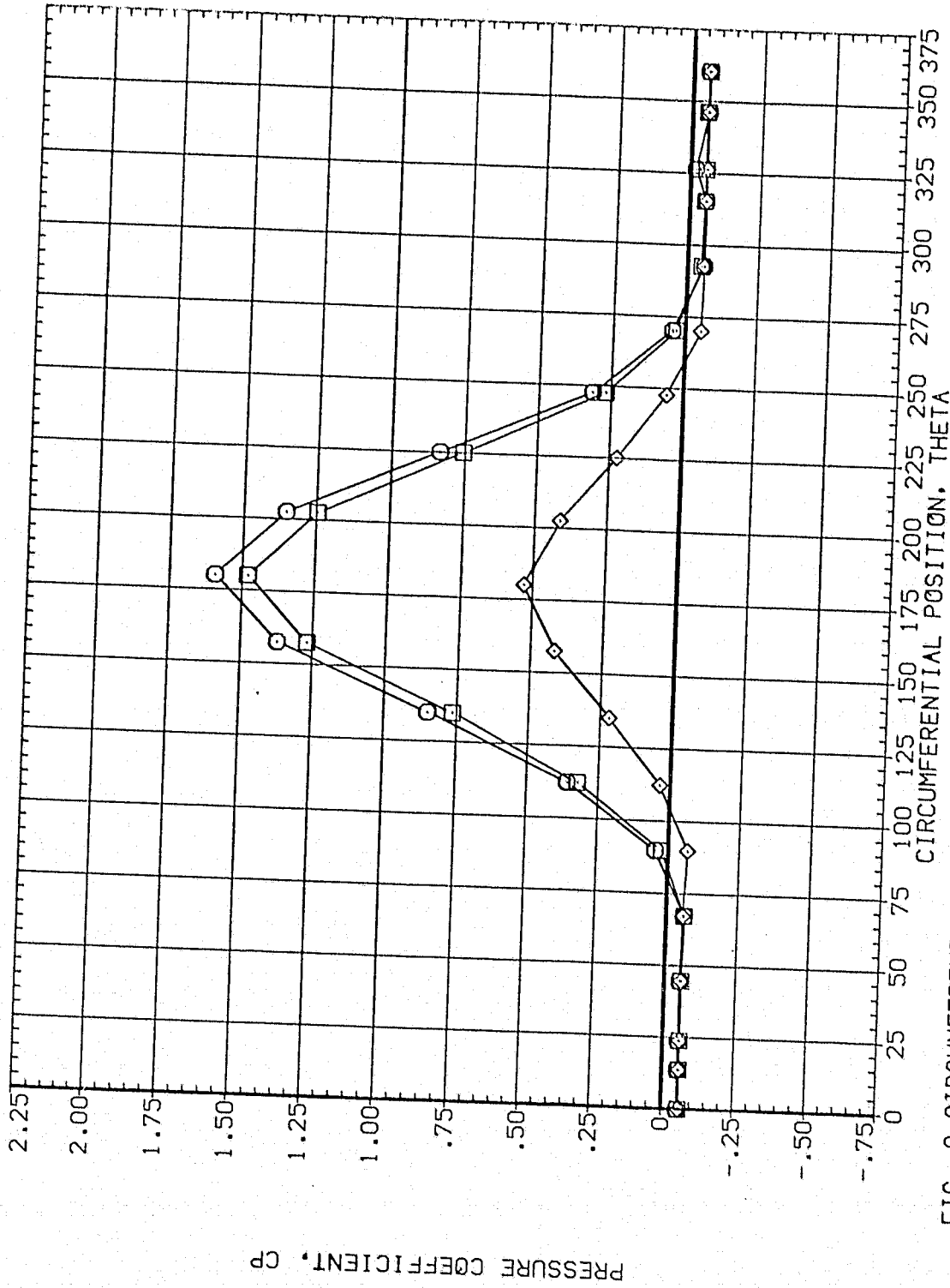


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.055	77.880	3.480	2.000	.000	80.000
◇	.162			2.000	.000	.000

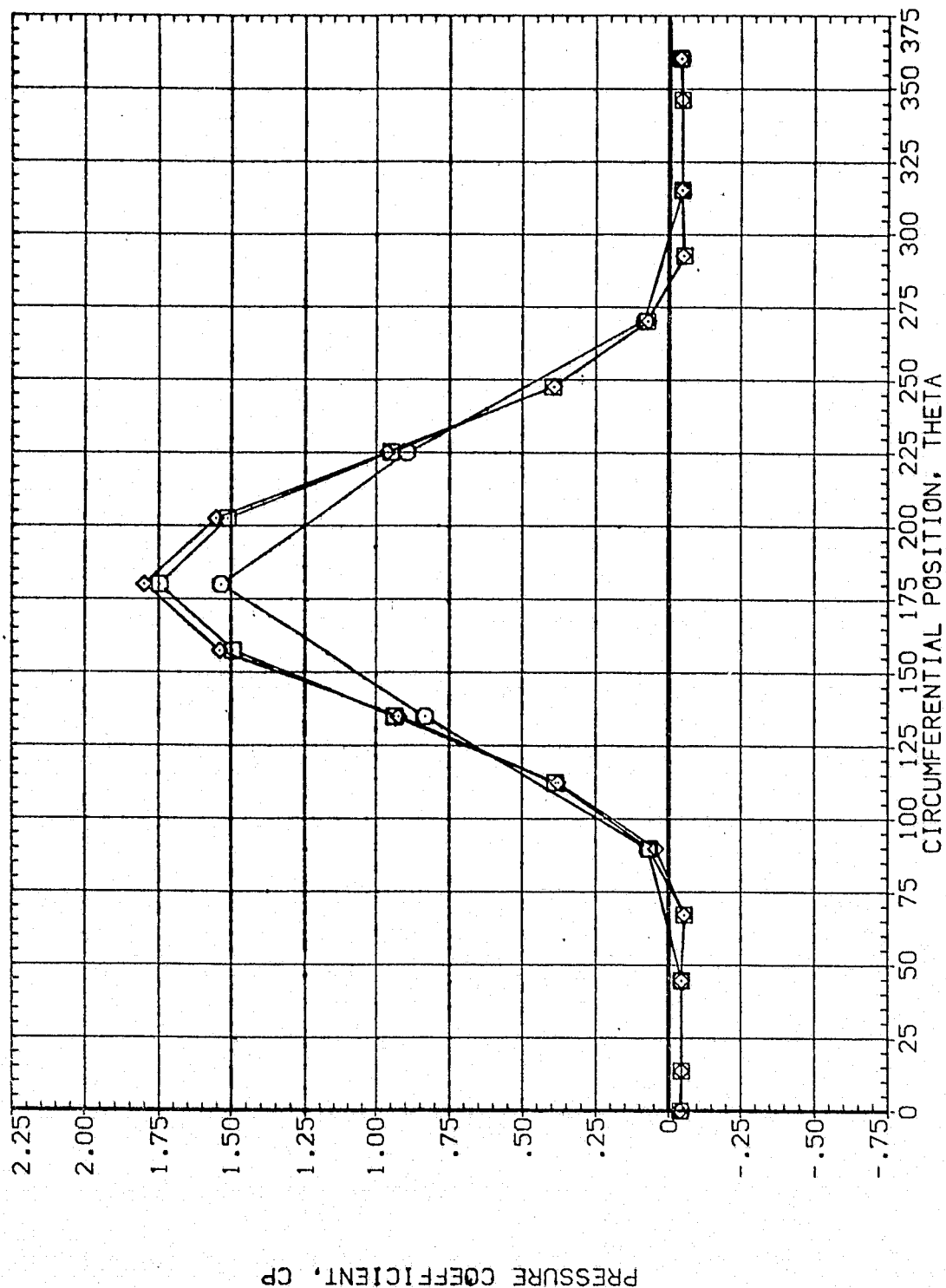


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES		
					.000	OFFSET	80.000
□	.216	77.880	3.480	MOUNT	2.000	PHI	.000
◇	.322						
◇	.518						

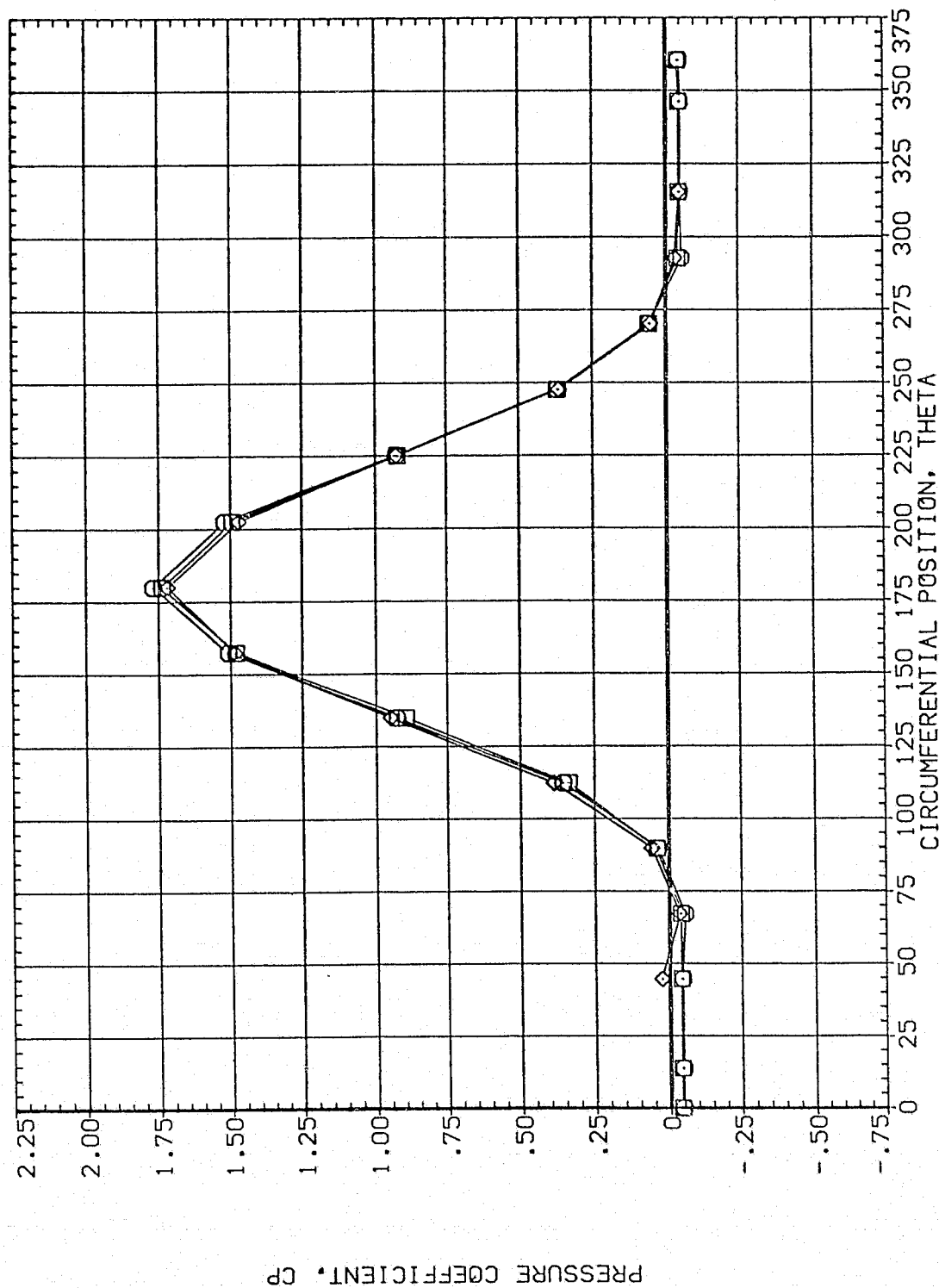


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA HOUNT	OFFSET PHI	80.000 .000
□	.610	77.880	3.480	2.000	2.000	.000
◇	.735					
◇	.860					

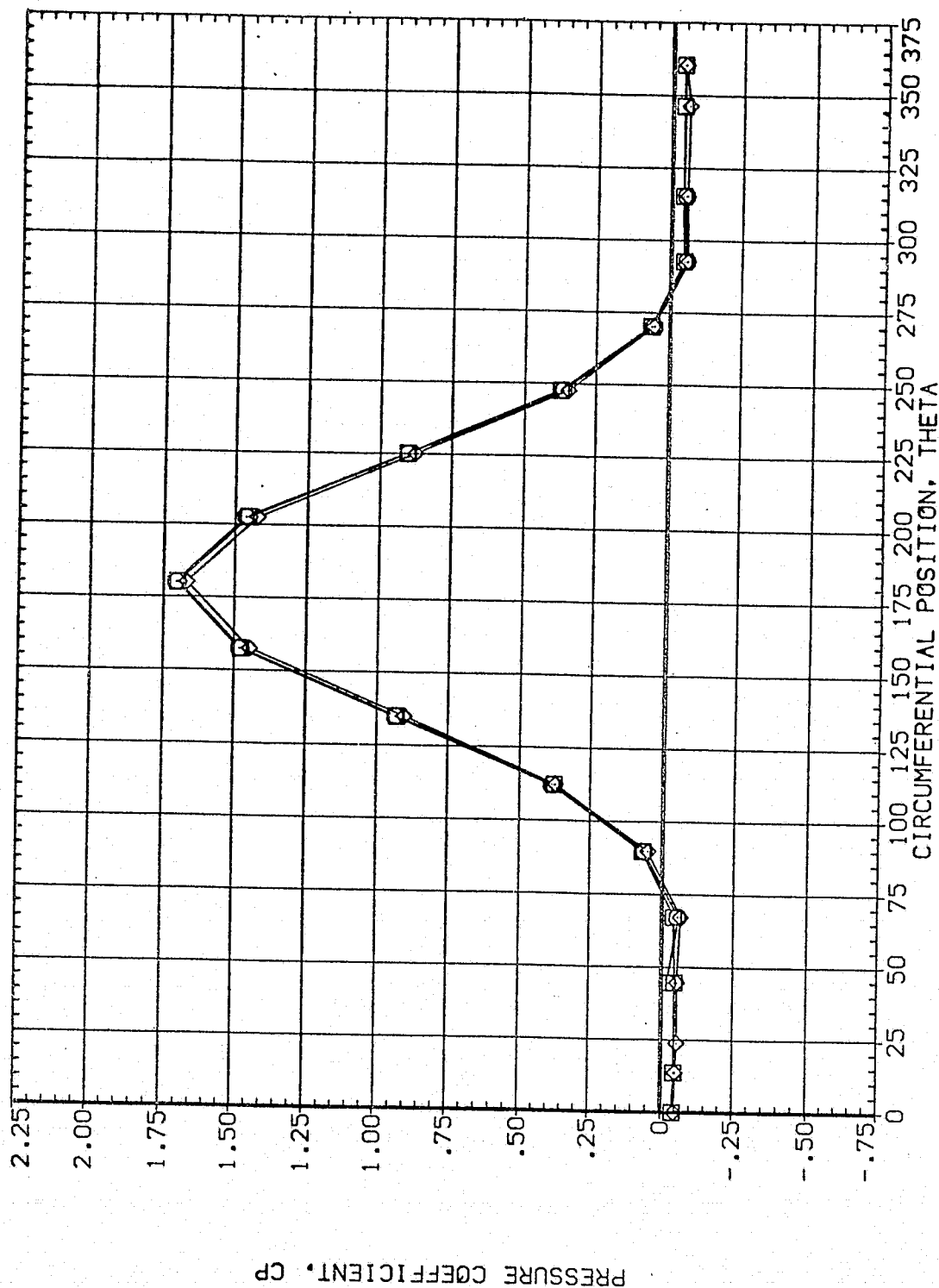


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL

X/LB

ALPHA

MACH

PARAMETRIC VALUES  
BETA  
MOUNT

80.000  
2.000  
PHI

77.880  
3.480

.892  
.923  
.954

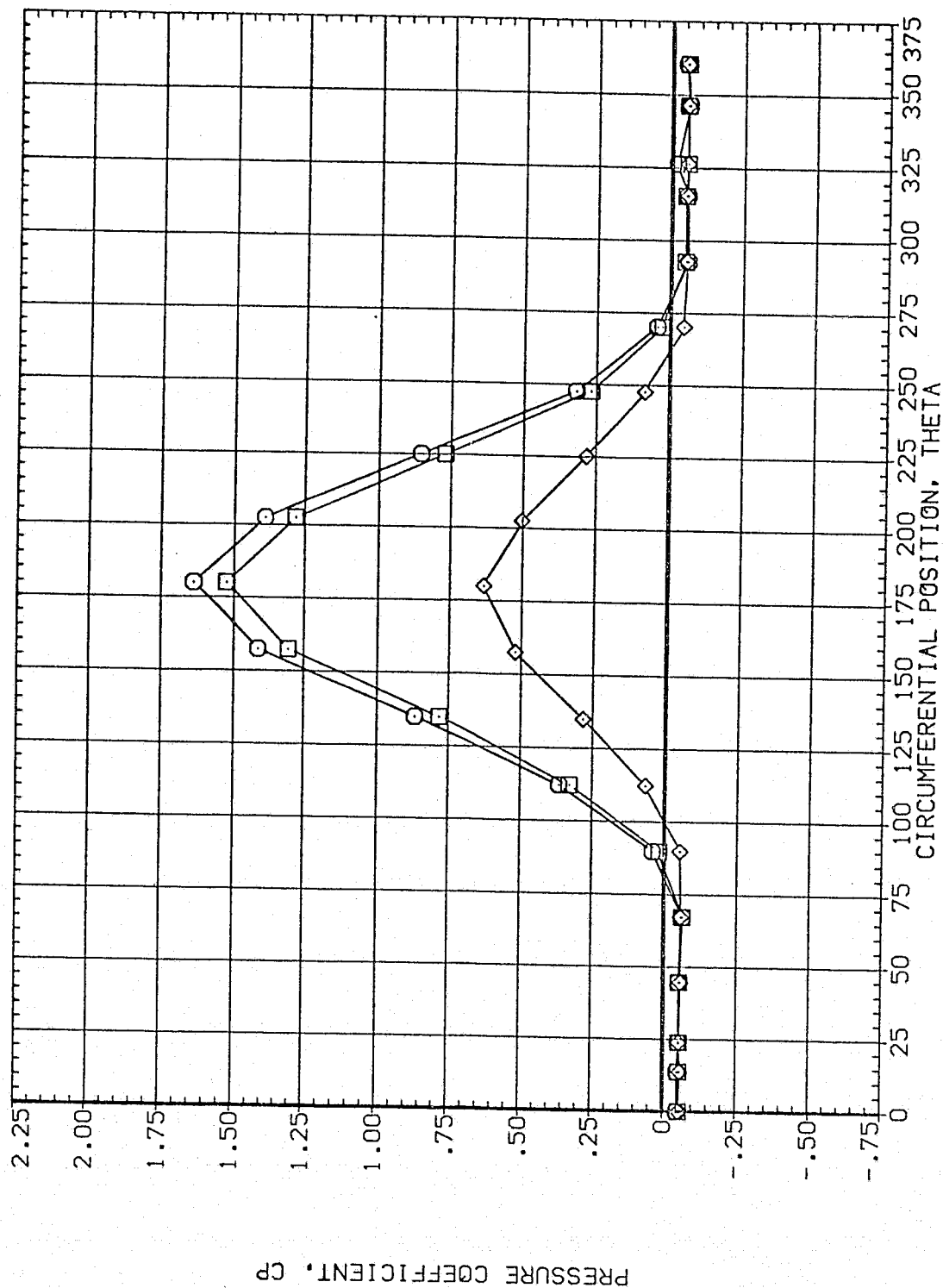


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL X/LB ALPHA MACH  
 ○ .055  
 □ .108  
 ◇ .162

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET 90.000  
 PHI .000

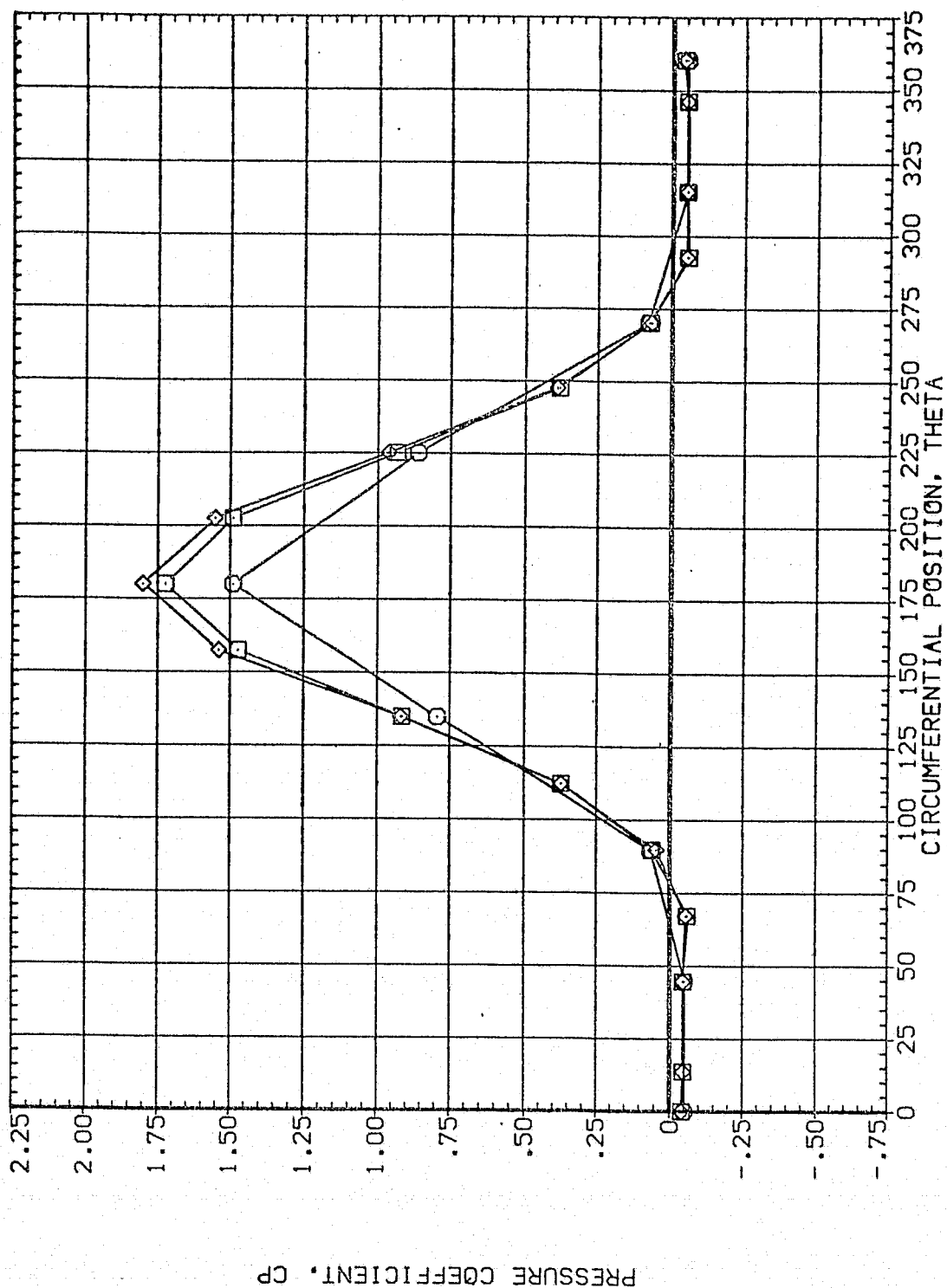


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.216	79.930	3.480	MOUNT	.000 OFFSET 90.000
□	.322				2.000 PHI .000
◇	.518				

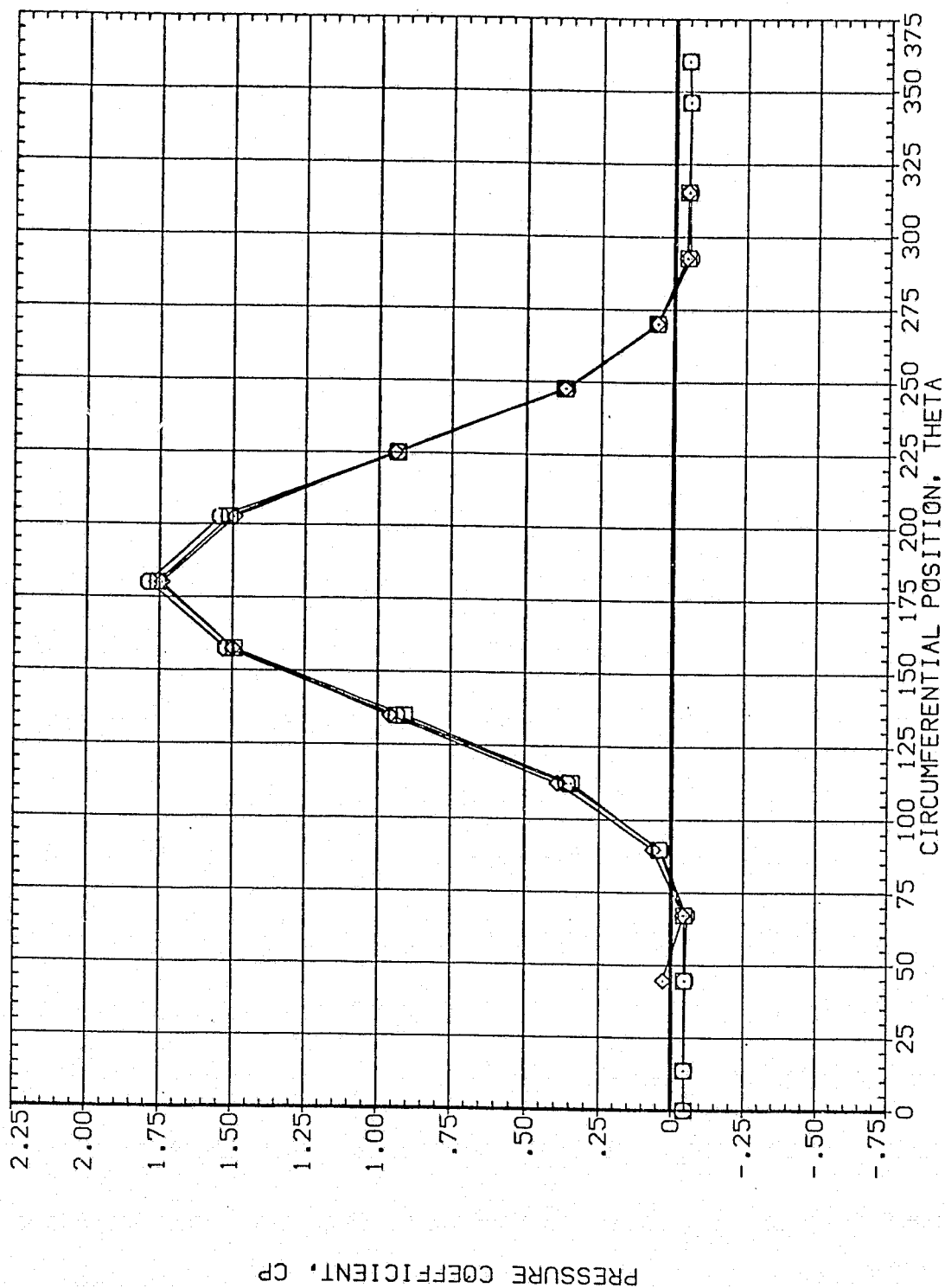


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	79.930	3.480	MOUNT	.000	.000
□	.735				2.000	
◇	.860					

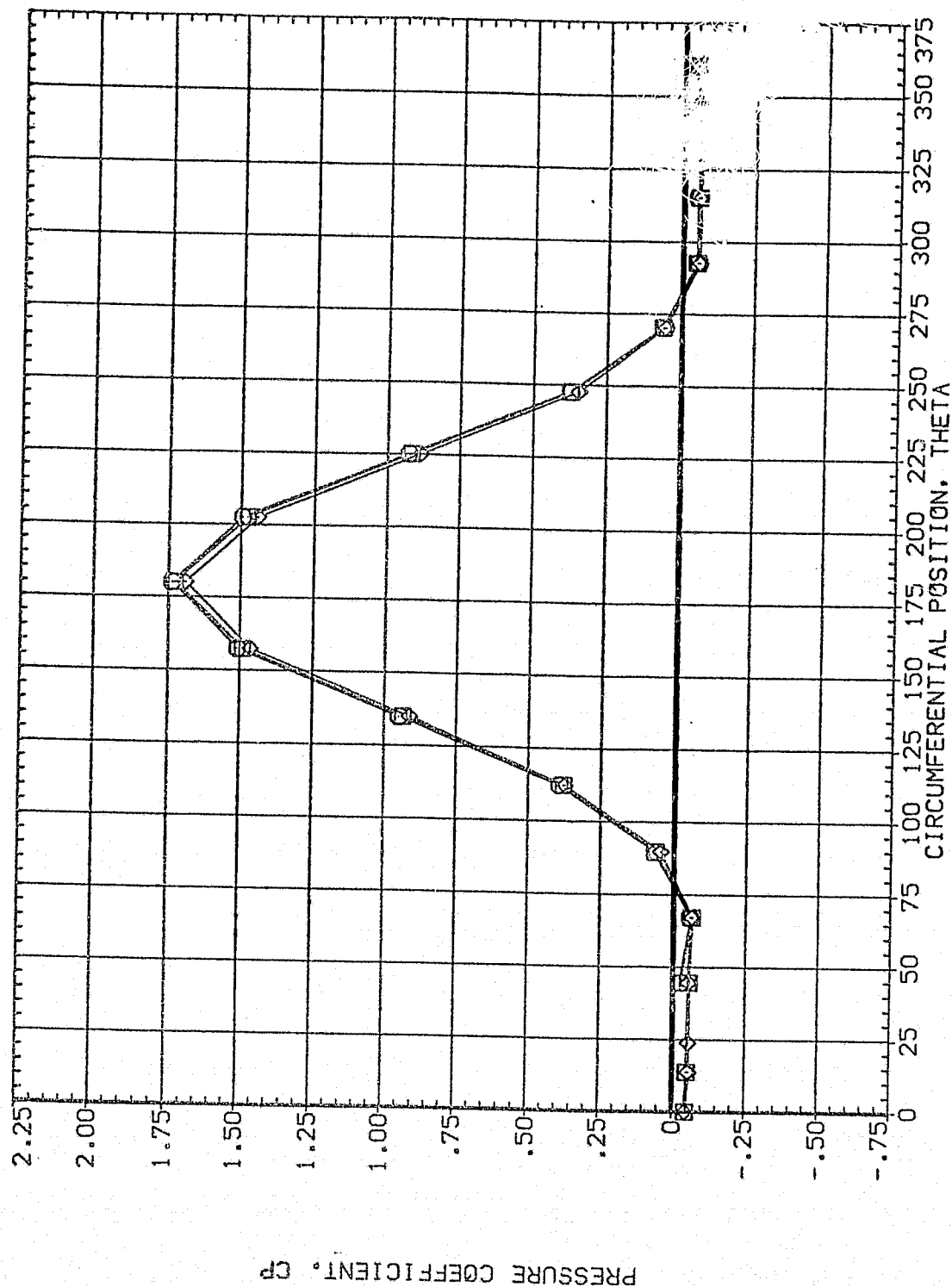


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

(P1A072)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
○  
□  
◇

X/LB .892  
.923  
.954  
ALPHA 79.930  
MACH 3.480

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
OFFSET PHI 90.000  
.000

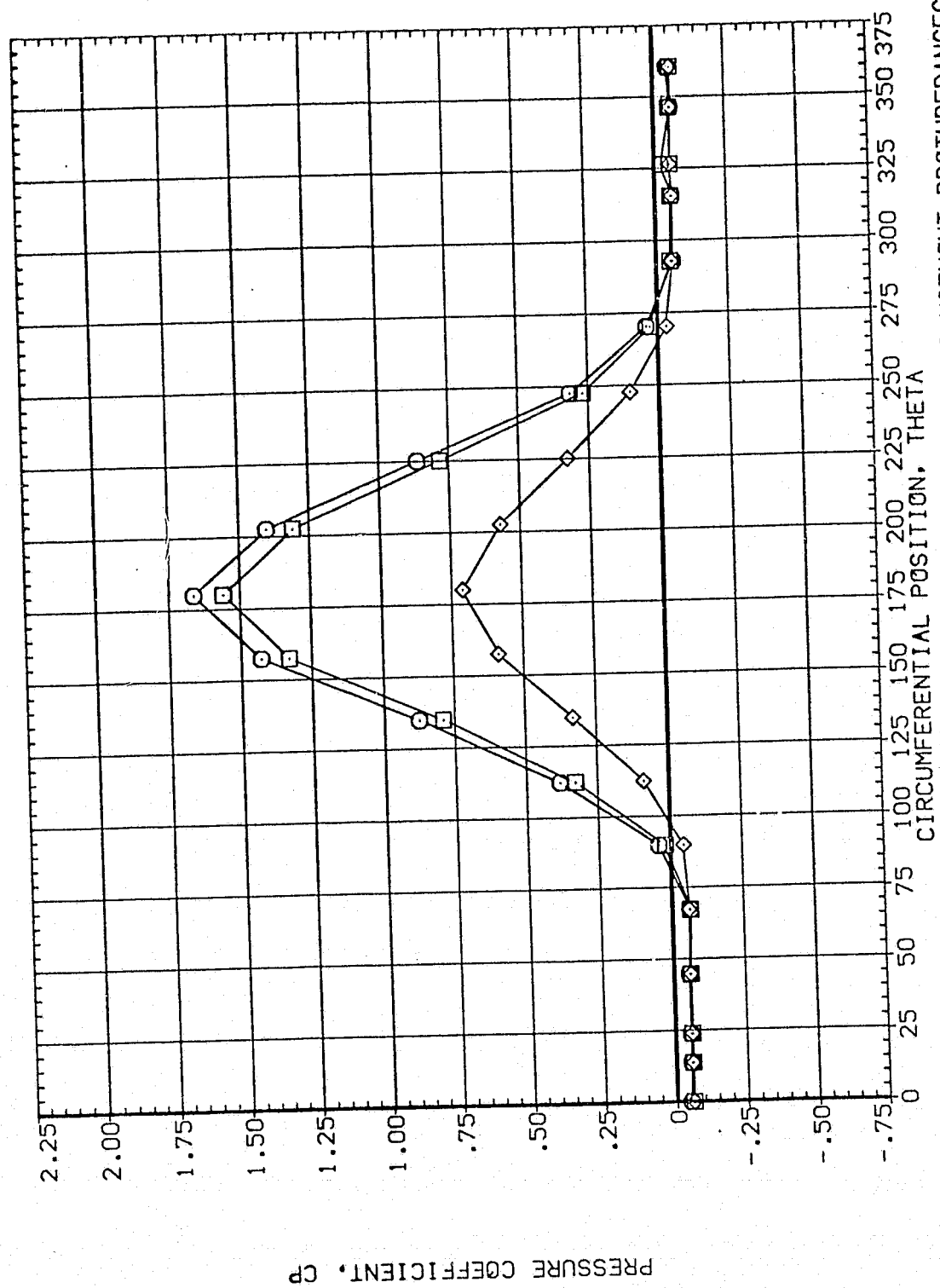


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2568

(P1A073)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET .000  
 PHI .000

SYMBOL X/LB ALPHA MACH  
 .055 81.830 3.480  
 .108  
 .162

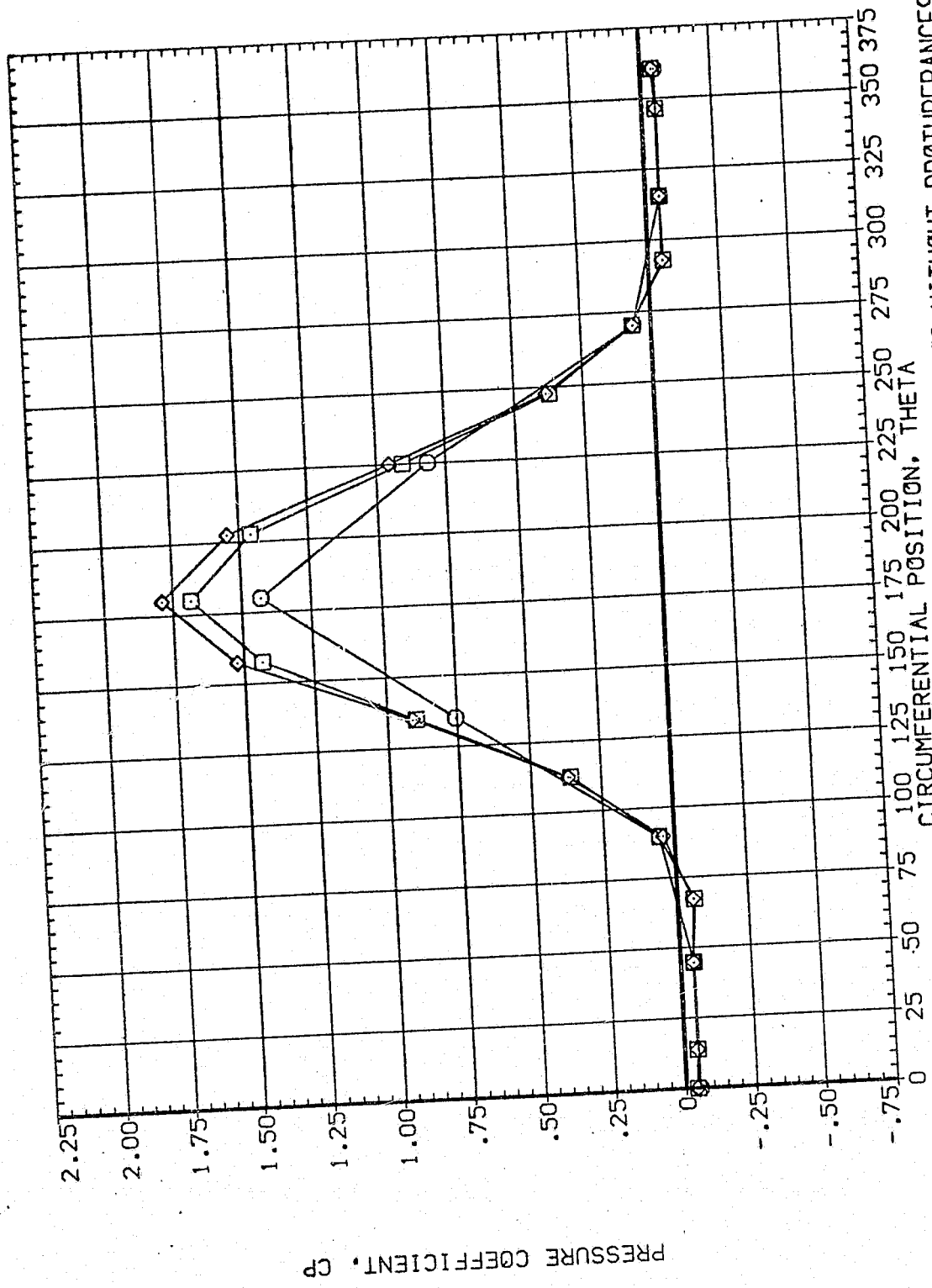


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.216	81.830	3.480	HQUNT	.000 OFFSET
□	.322				2.000 PHI
◇	.518				90.000

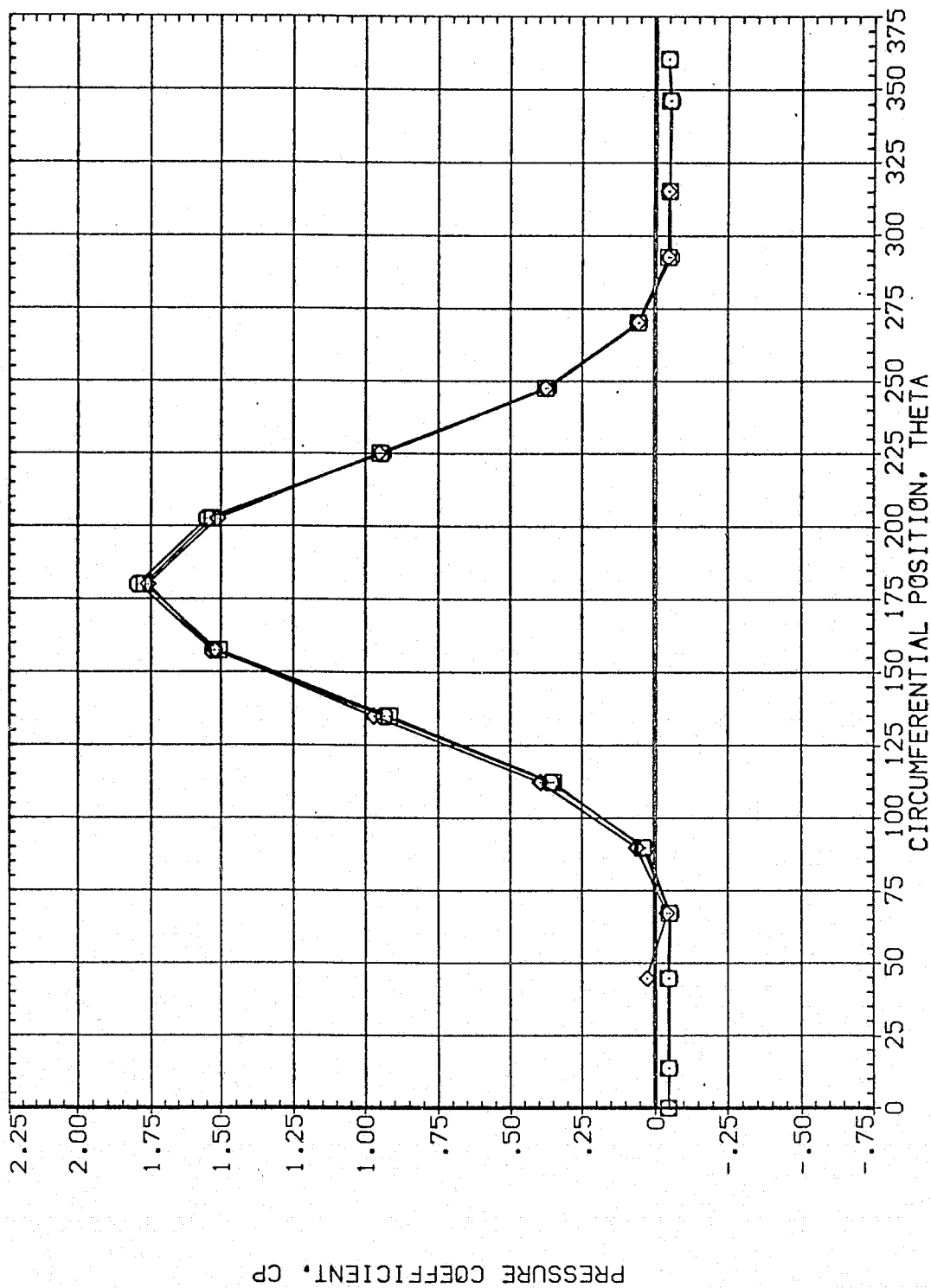


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2570

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.610	81.830	3.480	MOUNT	.000	90.000
◇	.735				2.000	.000
◇	.860					

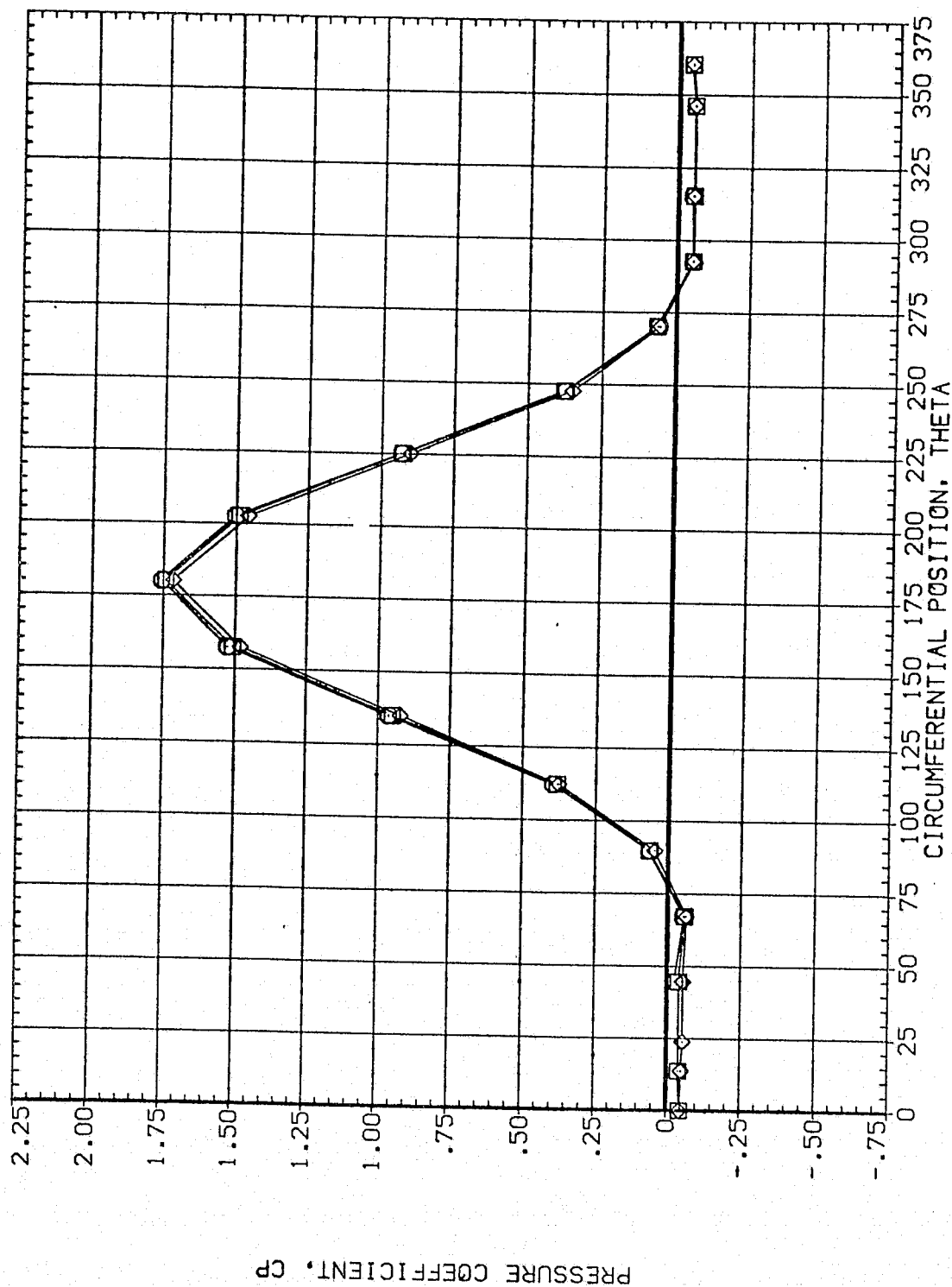


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

(P1A073)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
□  
◇

X/LB .892  
.923  
.954

ALPHA 81.830

MACH 3.480

PARAMETRIC VALUES  
OFFSET .000  
PHI .000

BETA  
MOUNT

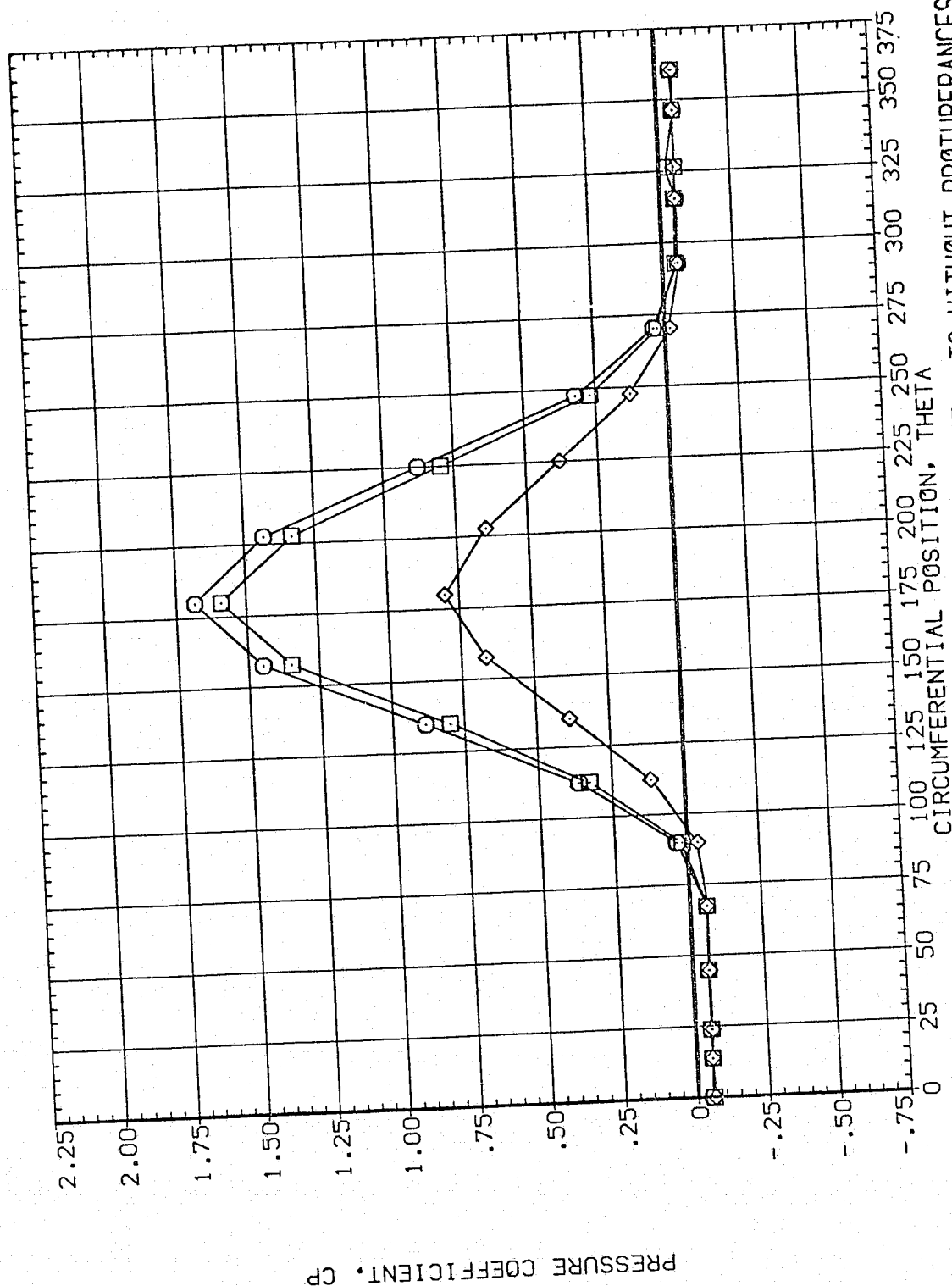


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A074)

SYMBOL X/LB

ALPHA 84.830 MACH 3.480

.055  
.108  
.162

BETA MOUNT  
PARAMETRIC VALUES  
.000 OFFSET  
2.000 PHI  
90.000  
.000

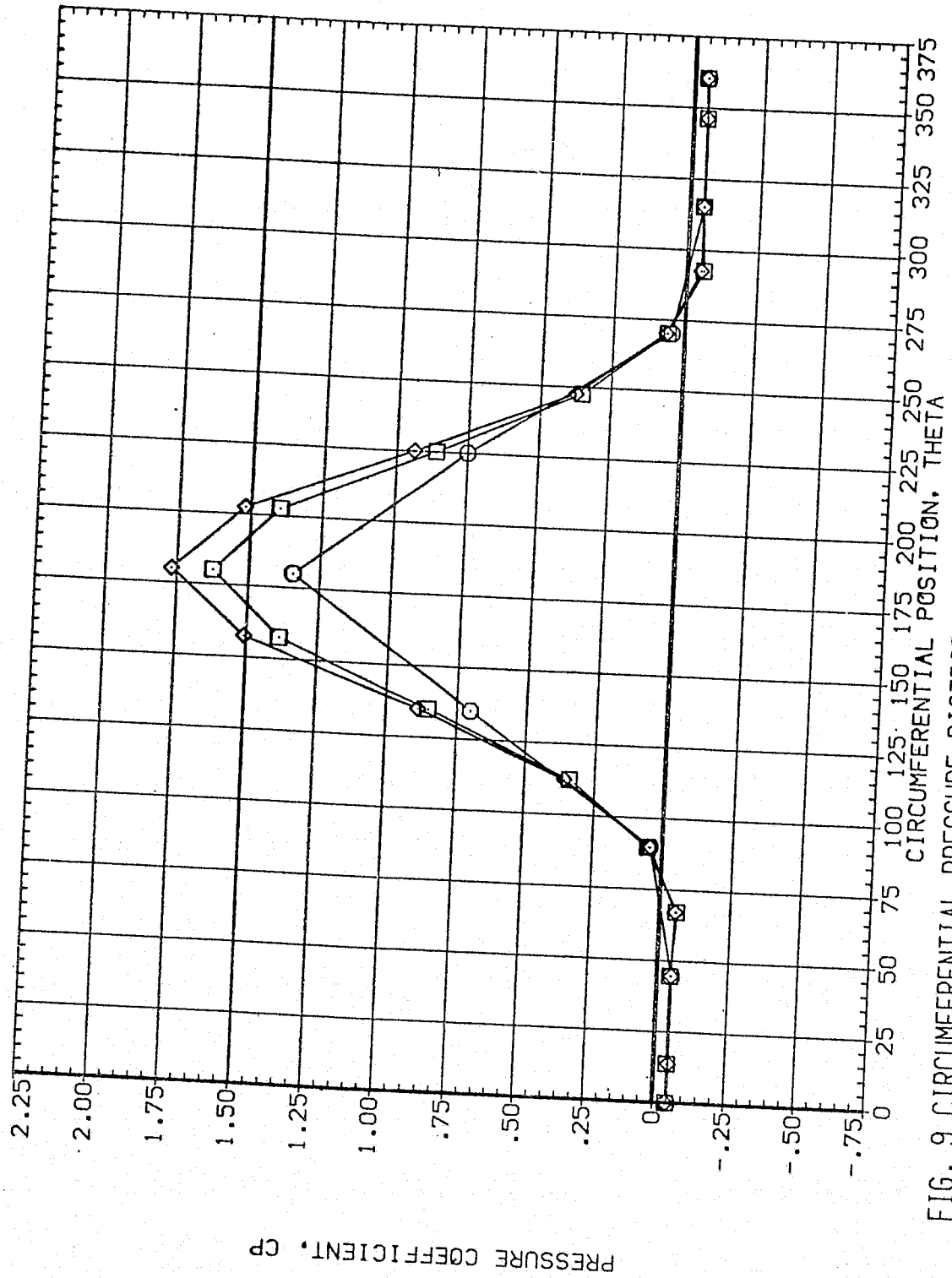


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A074)

SYMBOL

X/LB

ALPHA

MACH

84.830

3.480

.216

.322

.518

PARAMETRIC VALUES

BETA

OFFSET

PHI

90.000

.000

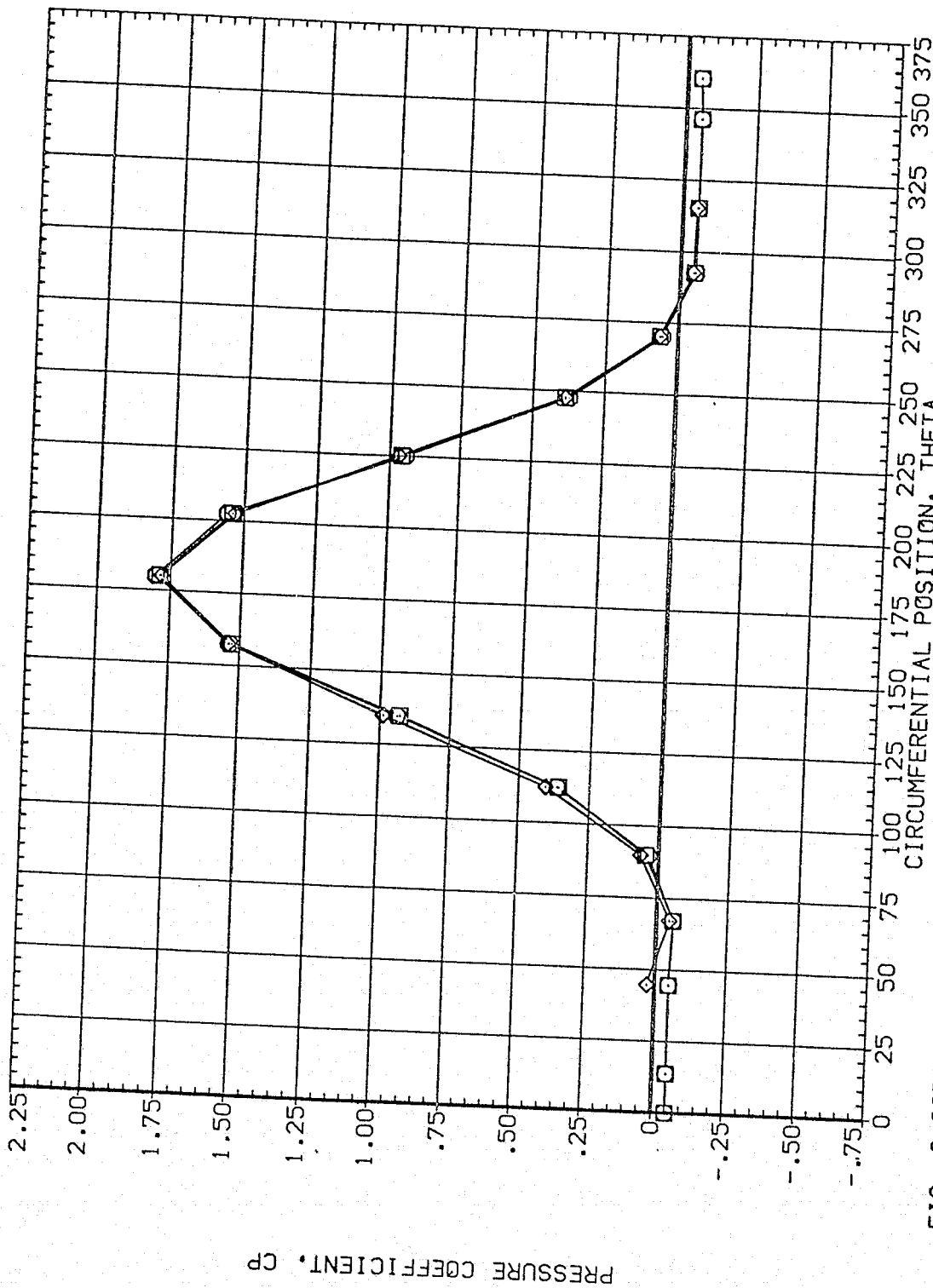


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A074)

SYMBOL X/LB

ALPHA

MACH

.610  
.735  
.860

84.830

3.480

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000

OFFSET  
PHI

90.000  
.000

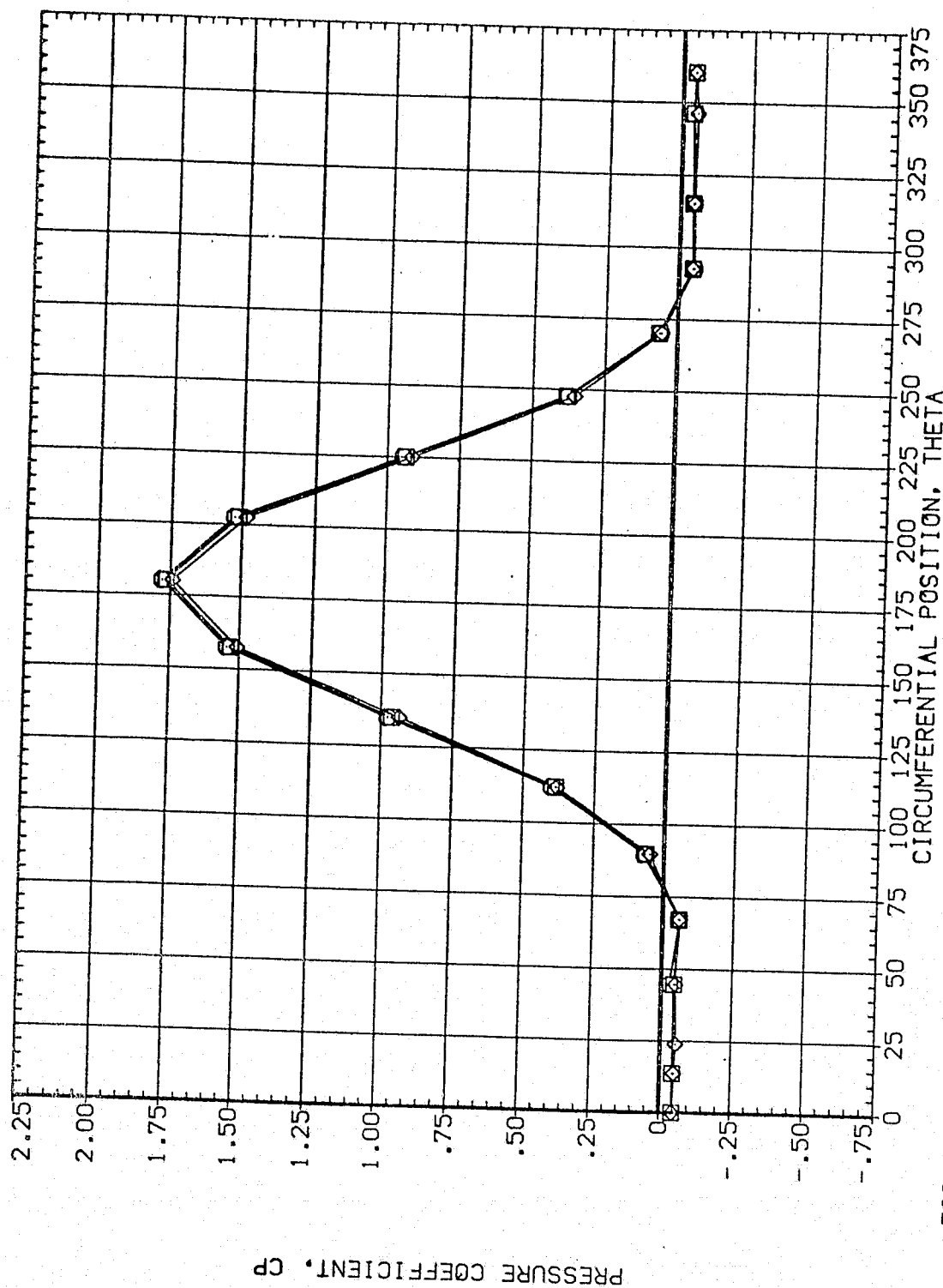


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	84.830	3.480	MOUNT	.000 OFFSET
□	.923				2.000 PHI
◇	.954				90.000

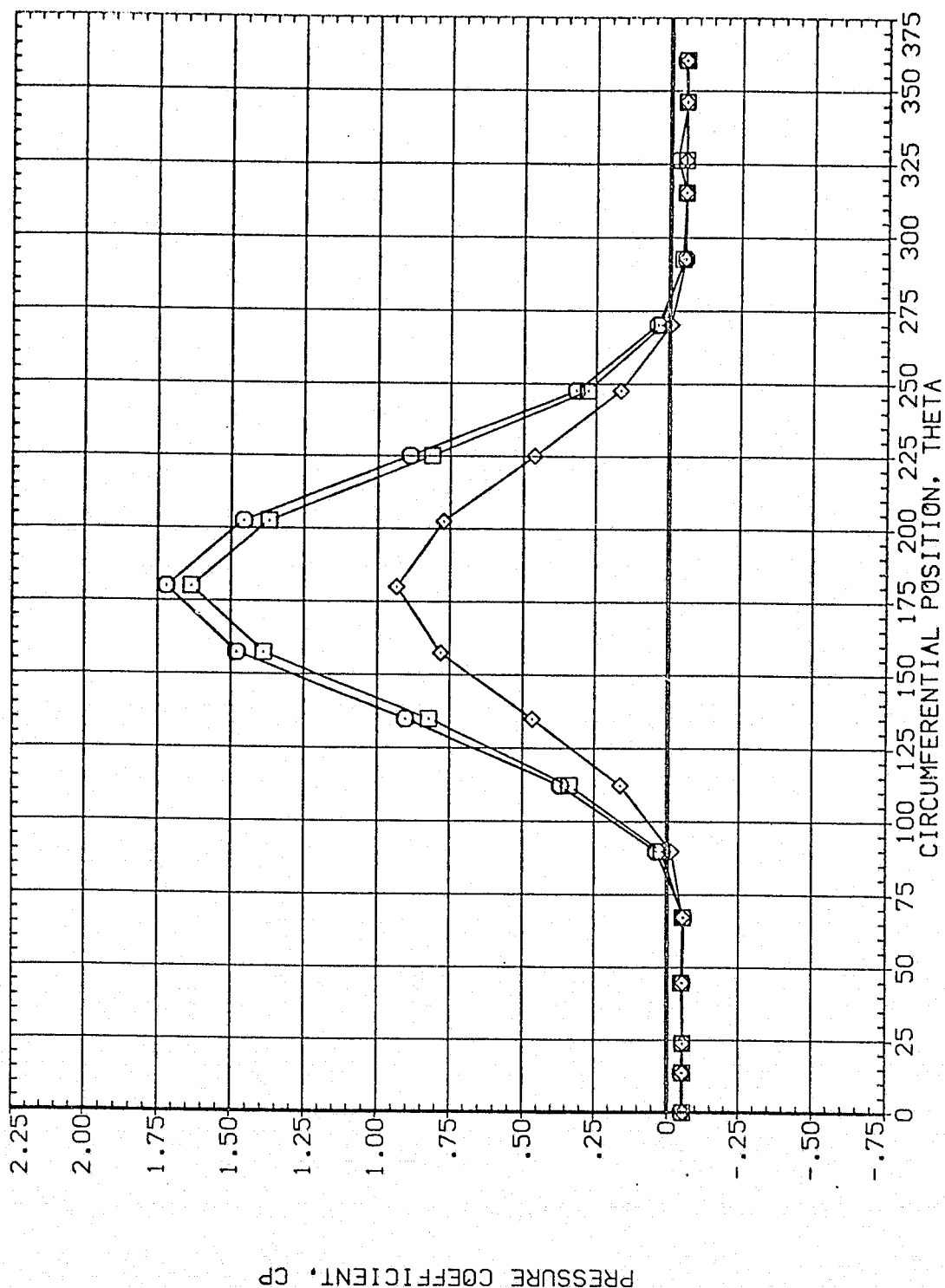


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL X/LB ALPHA MACH  
 □ .055 87.830 3.480  
 ○ .108  
 ◇ .162

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

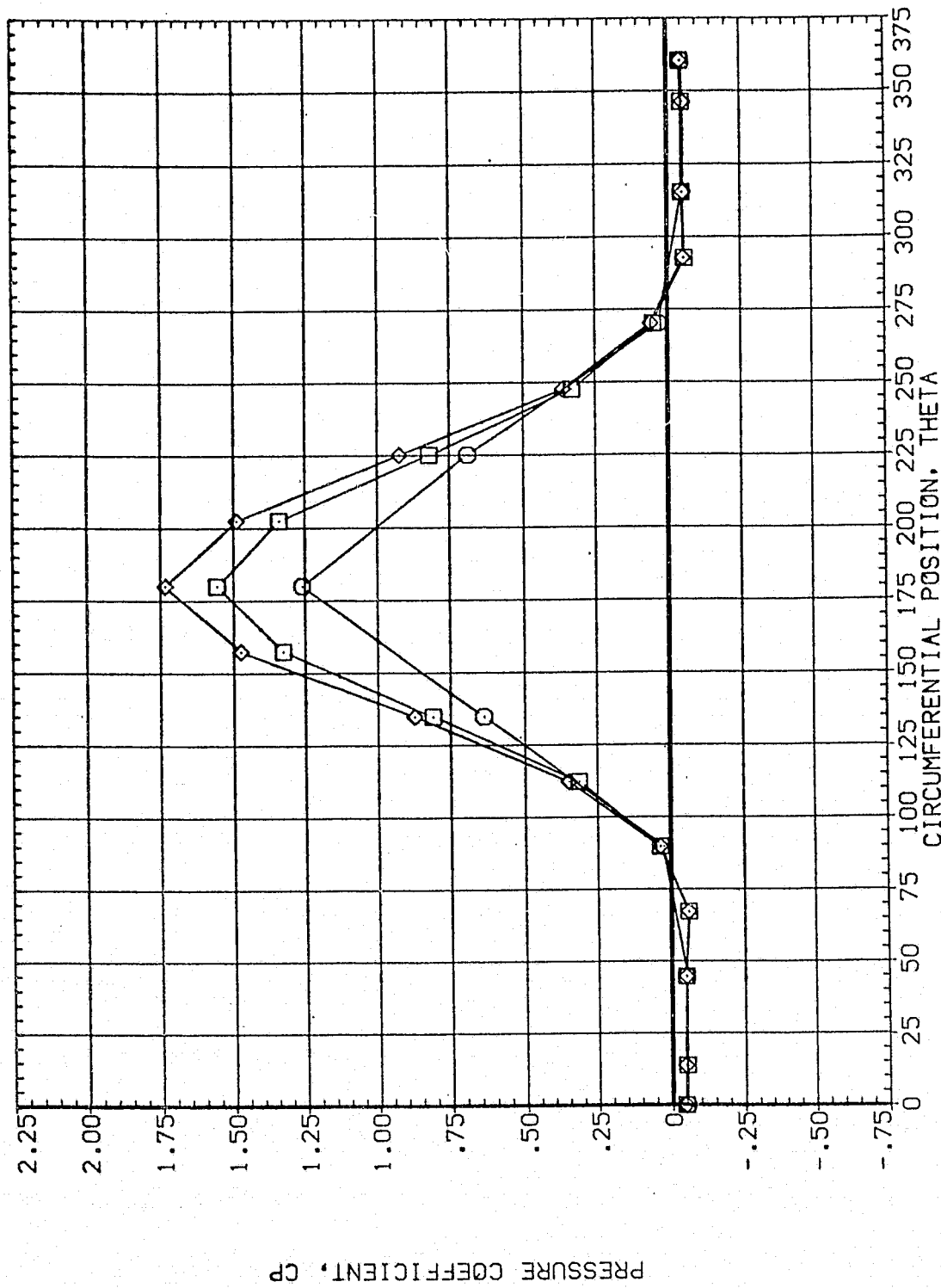


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

(P1A075)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
PHI 90.000  
OFFSET .000

SYMBOL X/LB ALPHA MACH  
□ .216 87.830 3.480  
◇ .322  
◇ .518

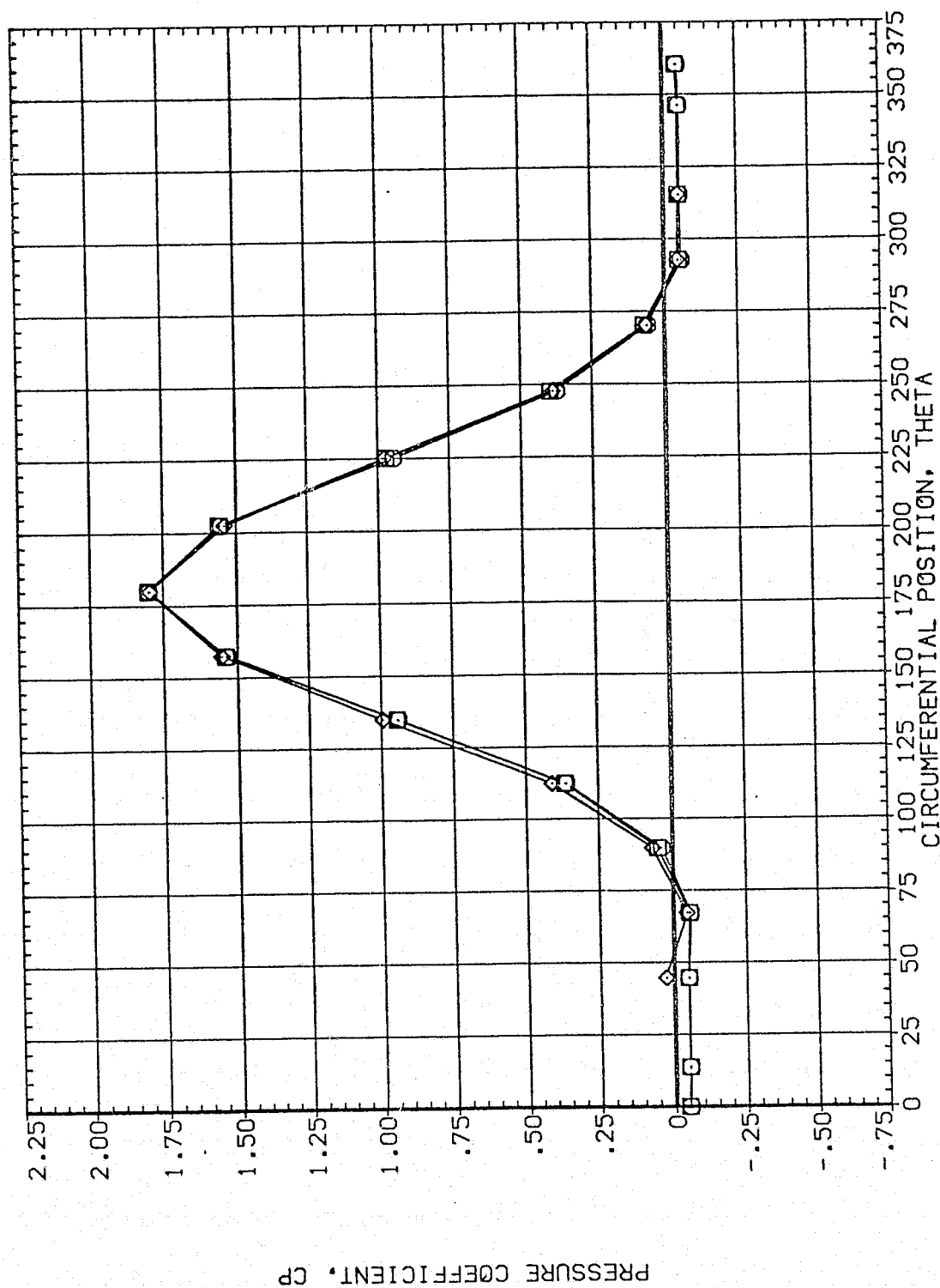


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2578

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	87.830	3.480	MOUNT	.000	90.000
□	.735				2.000	.000
◇	.860					

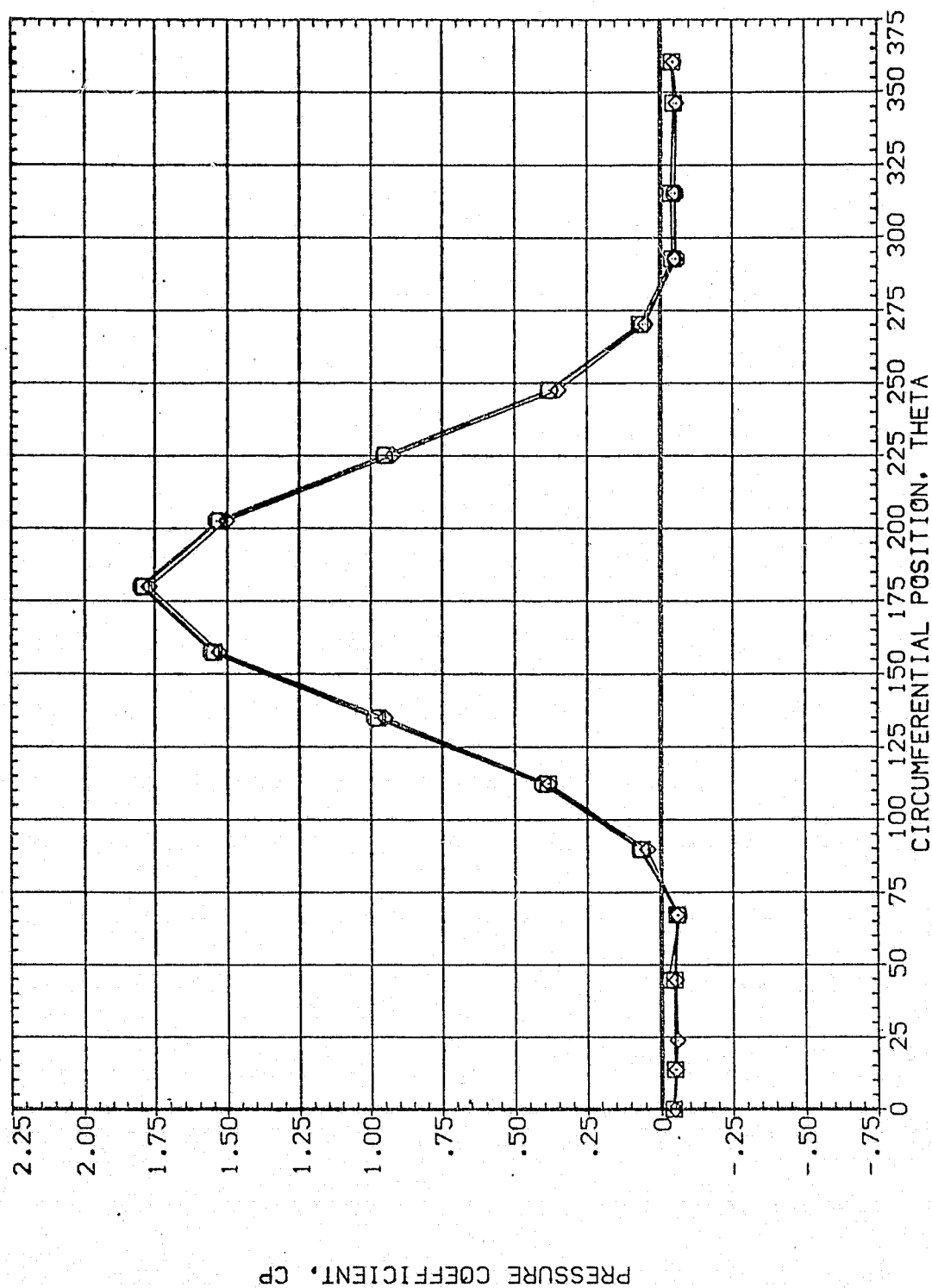


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL  
 ○  
 □  
 ◇

X/LB  
 .892  
 .923  
 .954

ALPHA  
 87.830

MACH  
 3.480

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 2.000  
 .000  
 .000

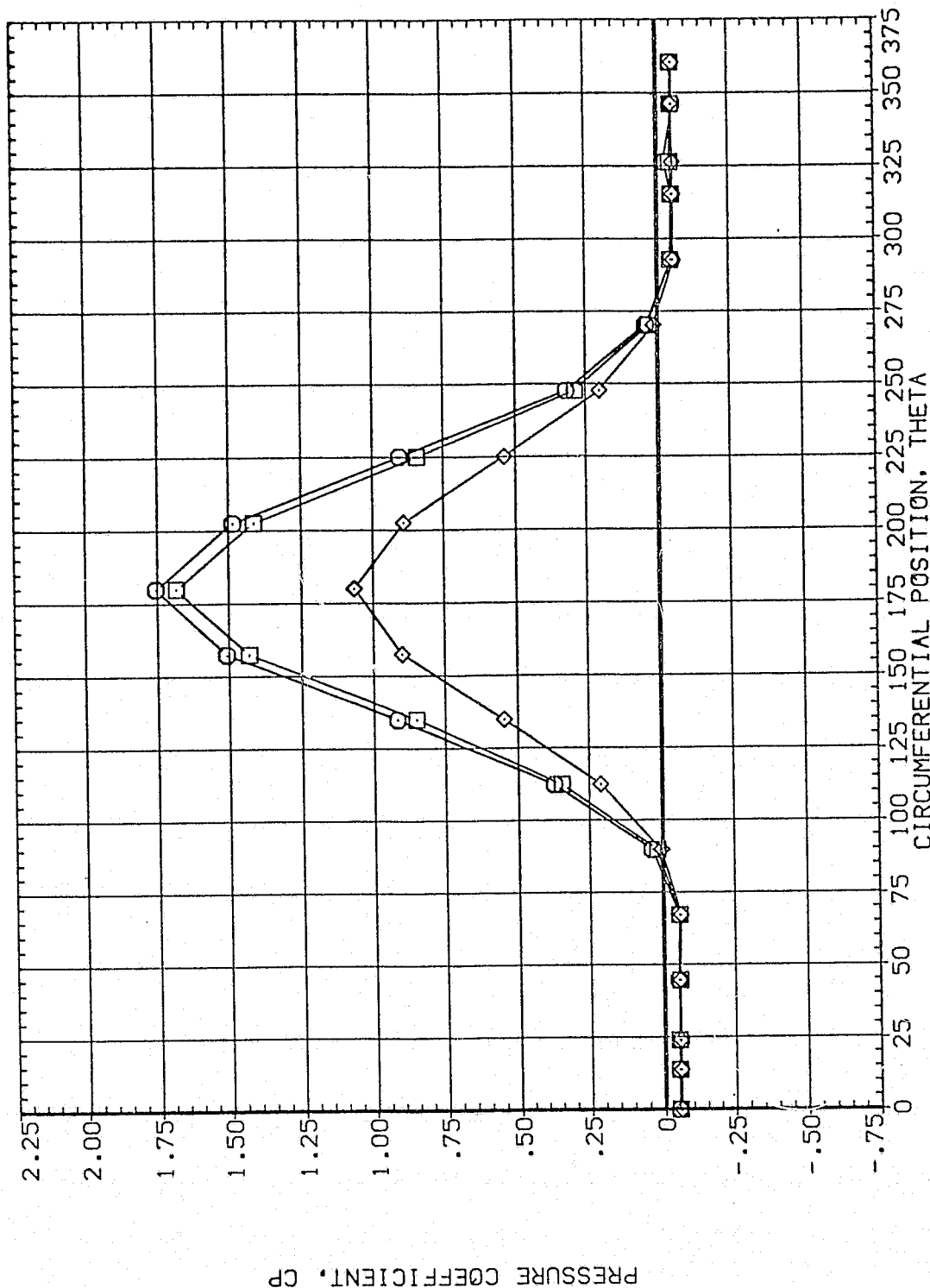


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	89.830	3.480	HOUNT	.000	.000
□	.108				2.000	
◇	.162					

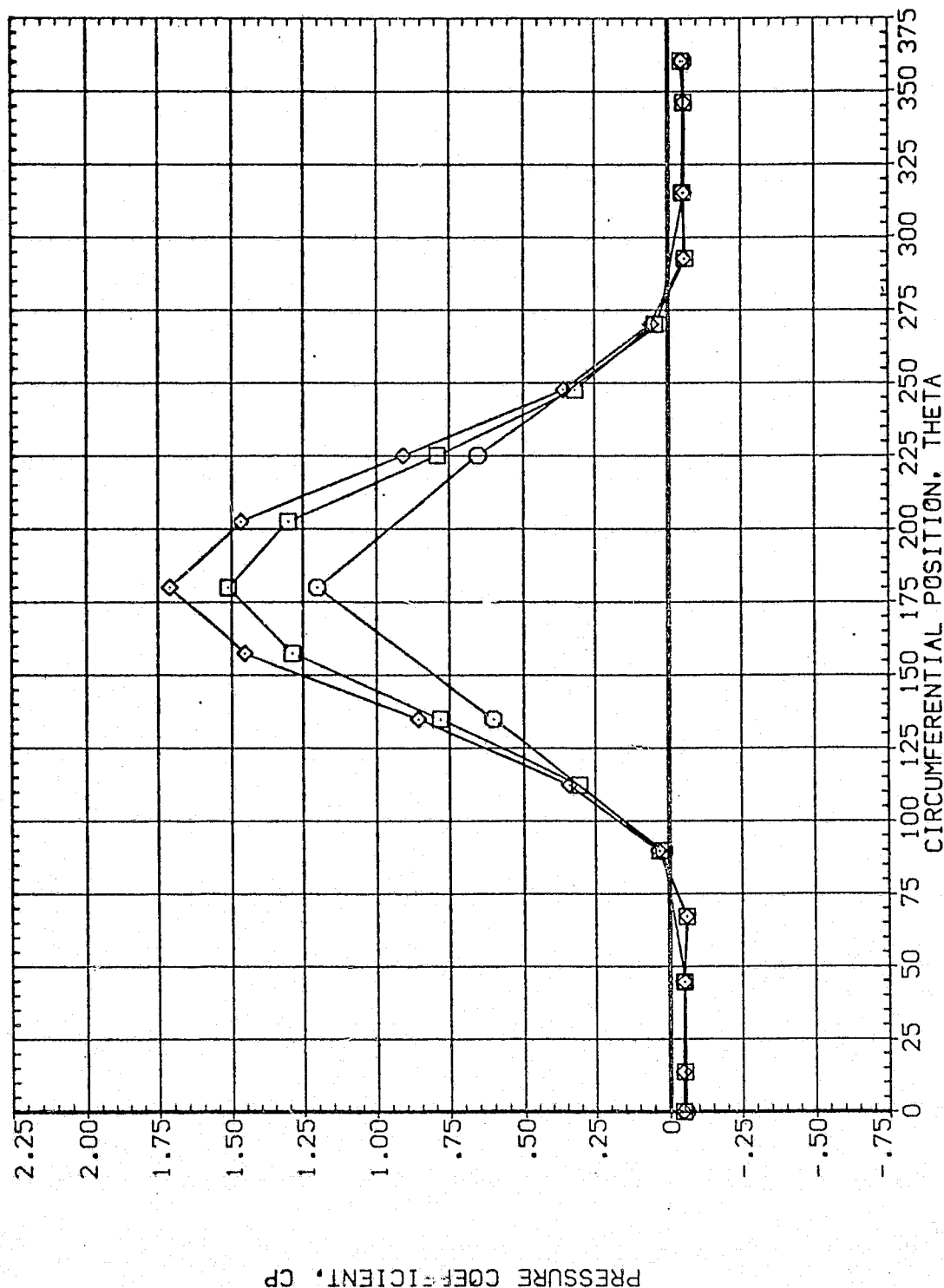


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL X/LB

ALPHA 89.830 MACH 3.480

BETA MOUNT

PARAMETRIC VALUES  
 .000 OFFSET  
 2.000 PHI  
 96.000

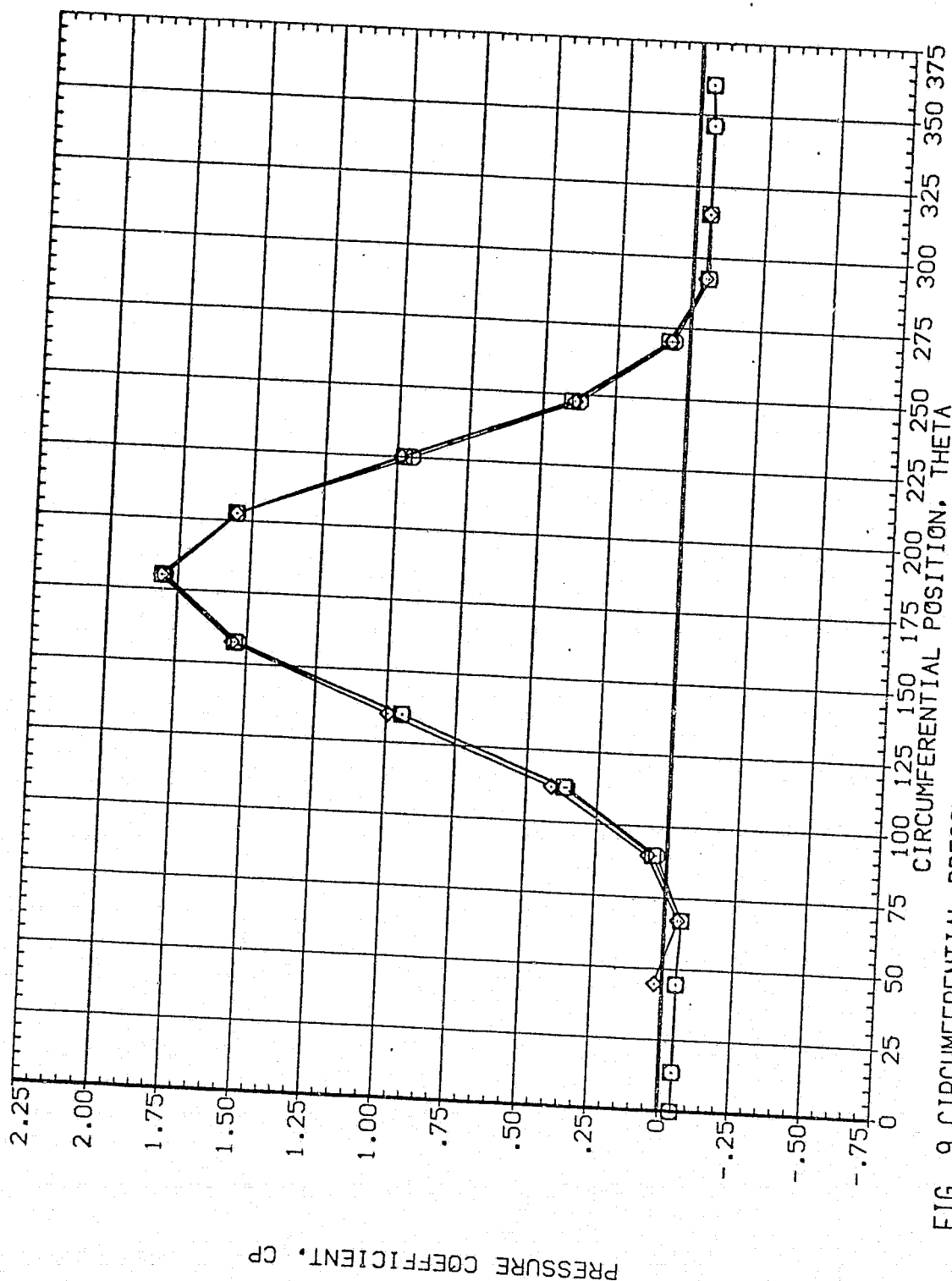


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.610	89.830	3.480	MBUNT	.000	90.000
◇	.735				2.000	.000
◇	.860					

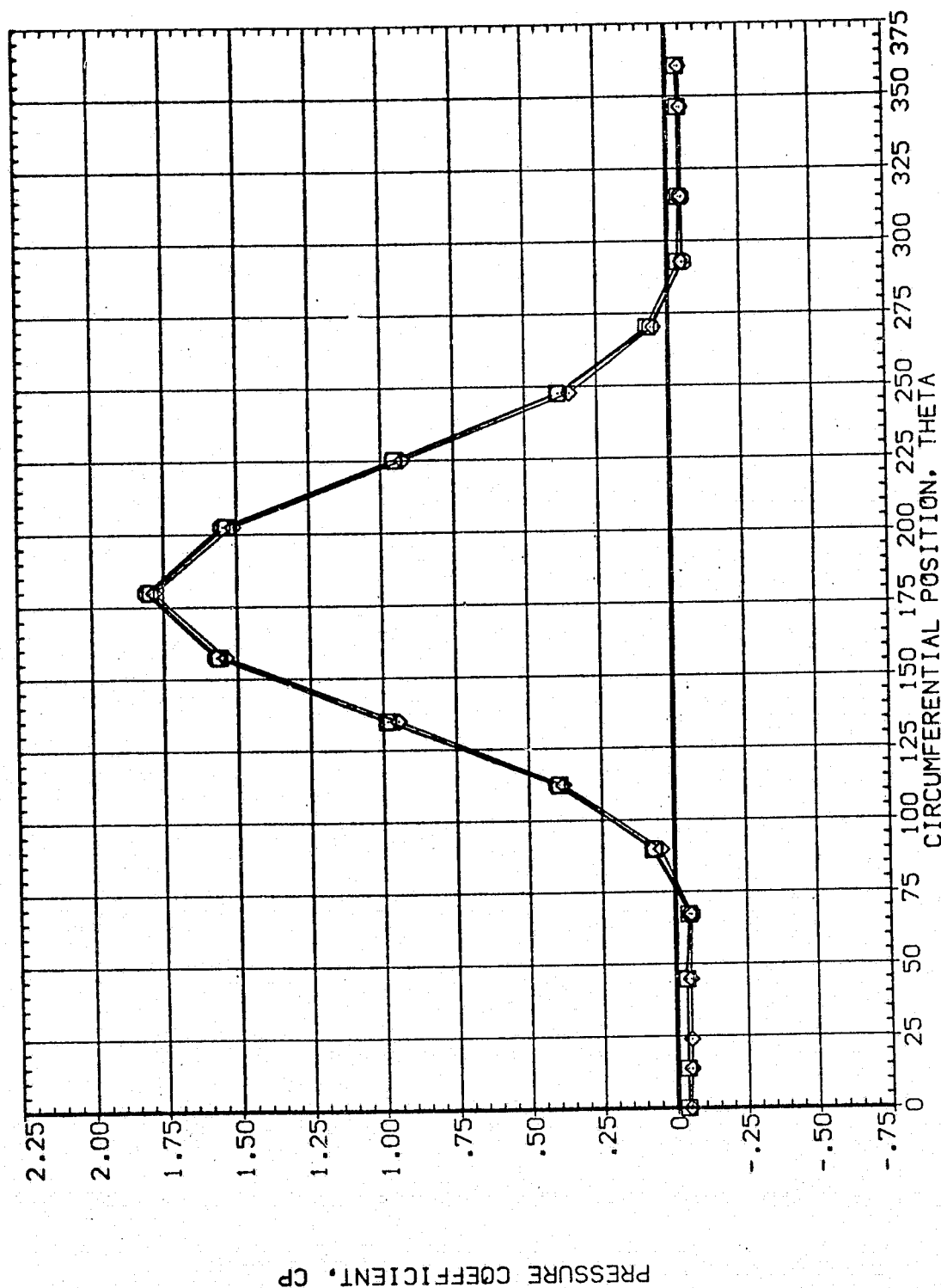


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	89.830	3.480	MOUNT	.000 OFFSET
□	.923				2.000 PHI
◇	.954				90.000

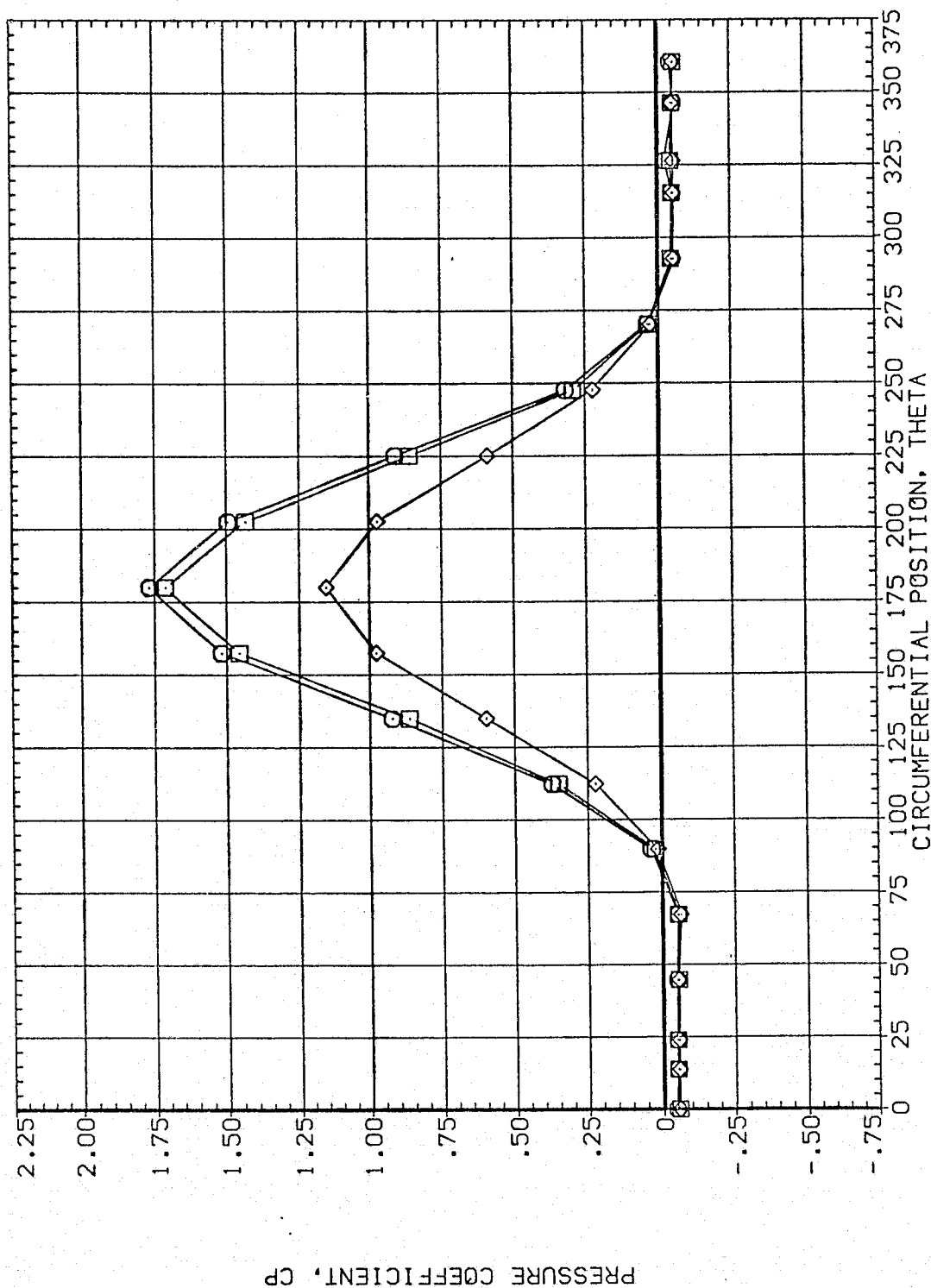


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2584

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.055	91.850	3.480	.000	.000	.000
◇	.108			2.000		
◇	.162					

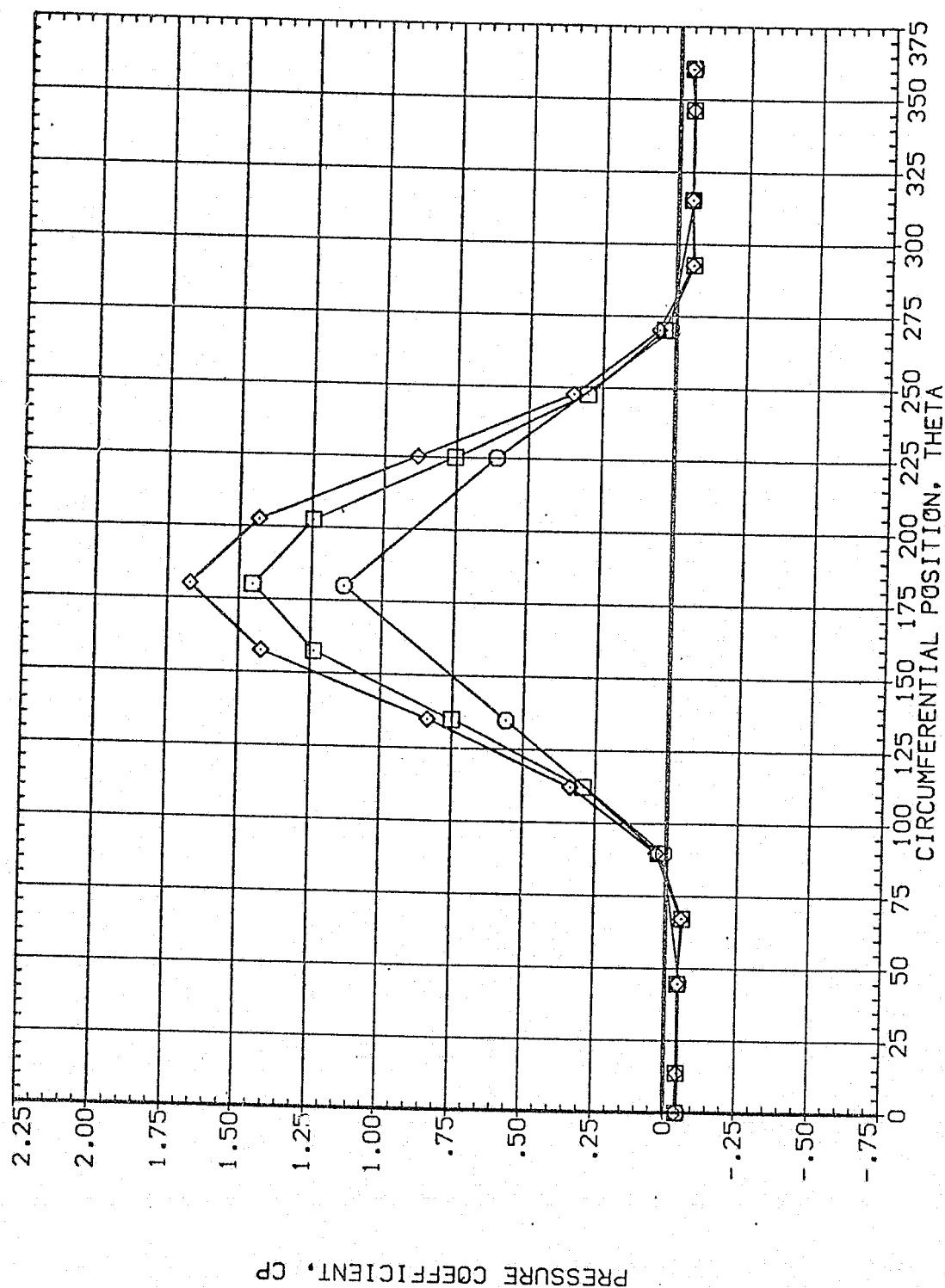


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES			
				BETA	.000	OFFSET	90.000
				MOUNT	2.000	PHI	.000

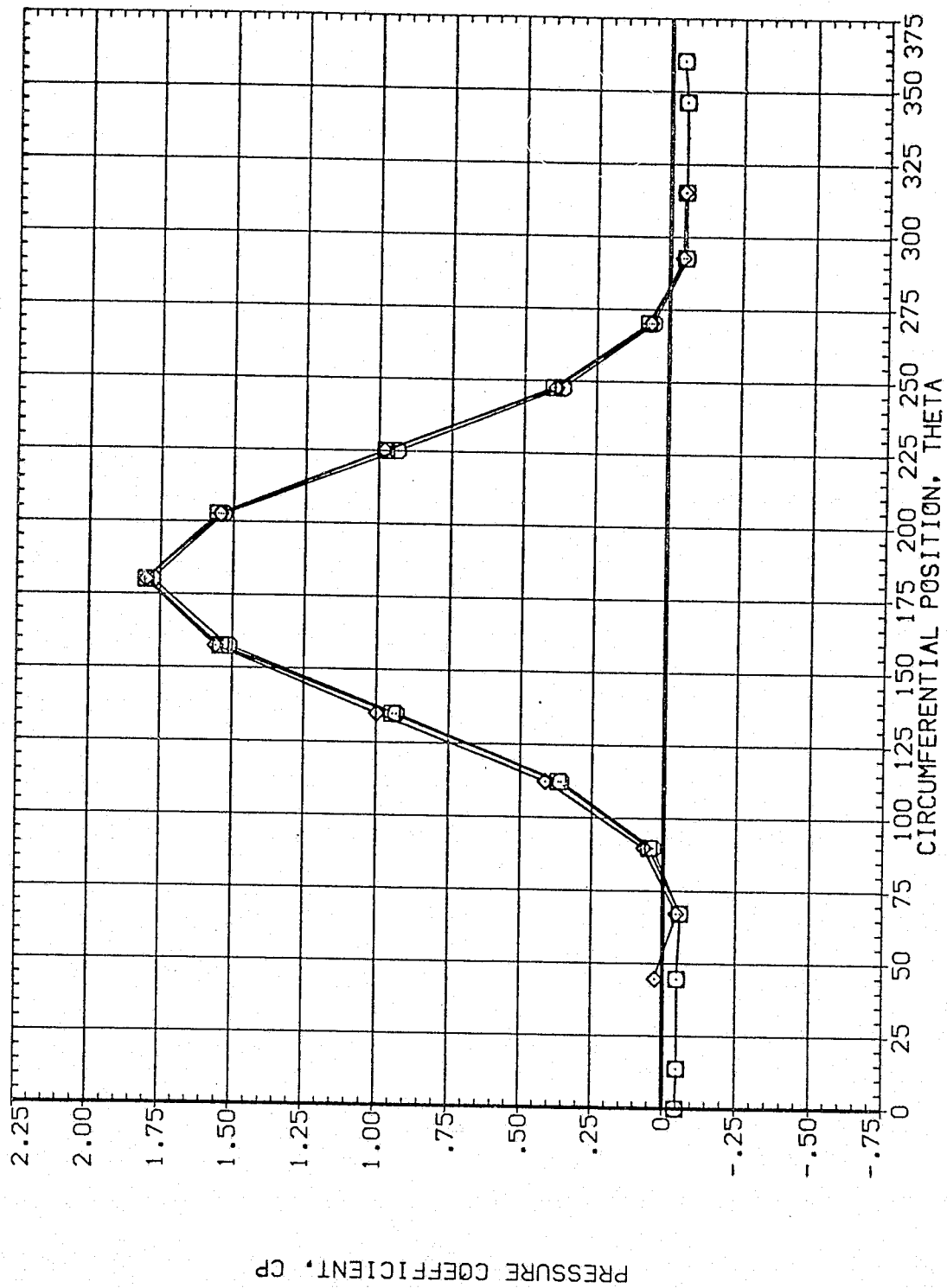


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.610	91.850	3.480	OUNT	.000	.000
◇	.735				2.000	
	.860					

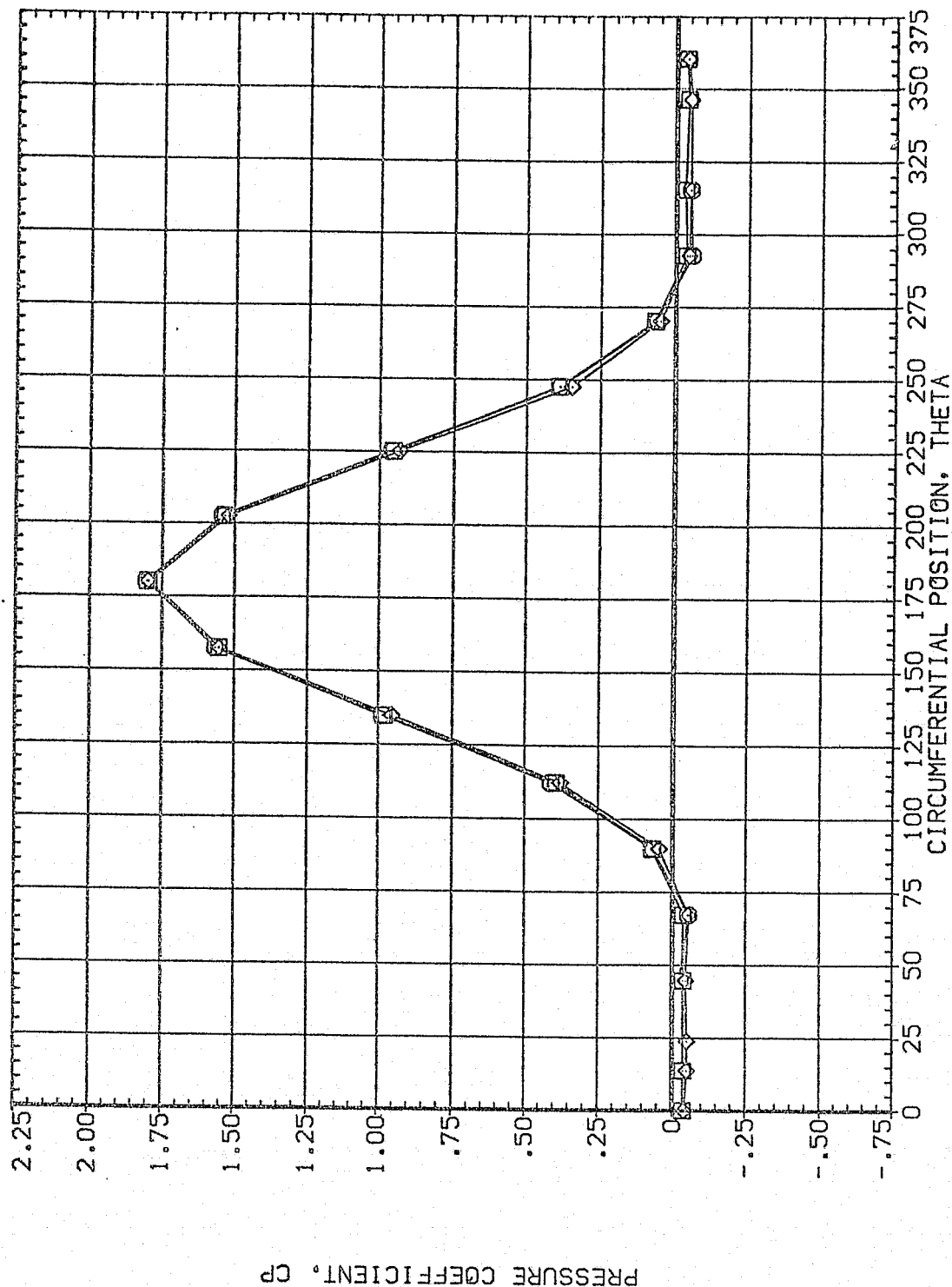


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL X/LB ALPHA MACH  
 ○ .892 91.850 3.480  
 □ .923  
 ◇ .954

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI .000

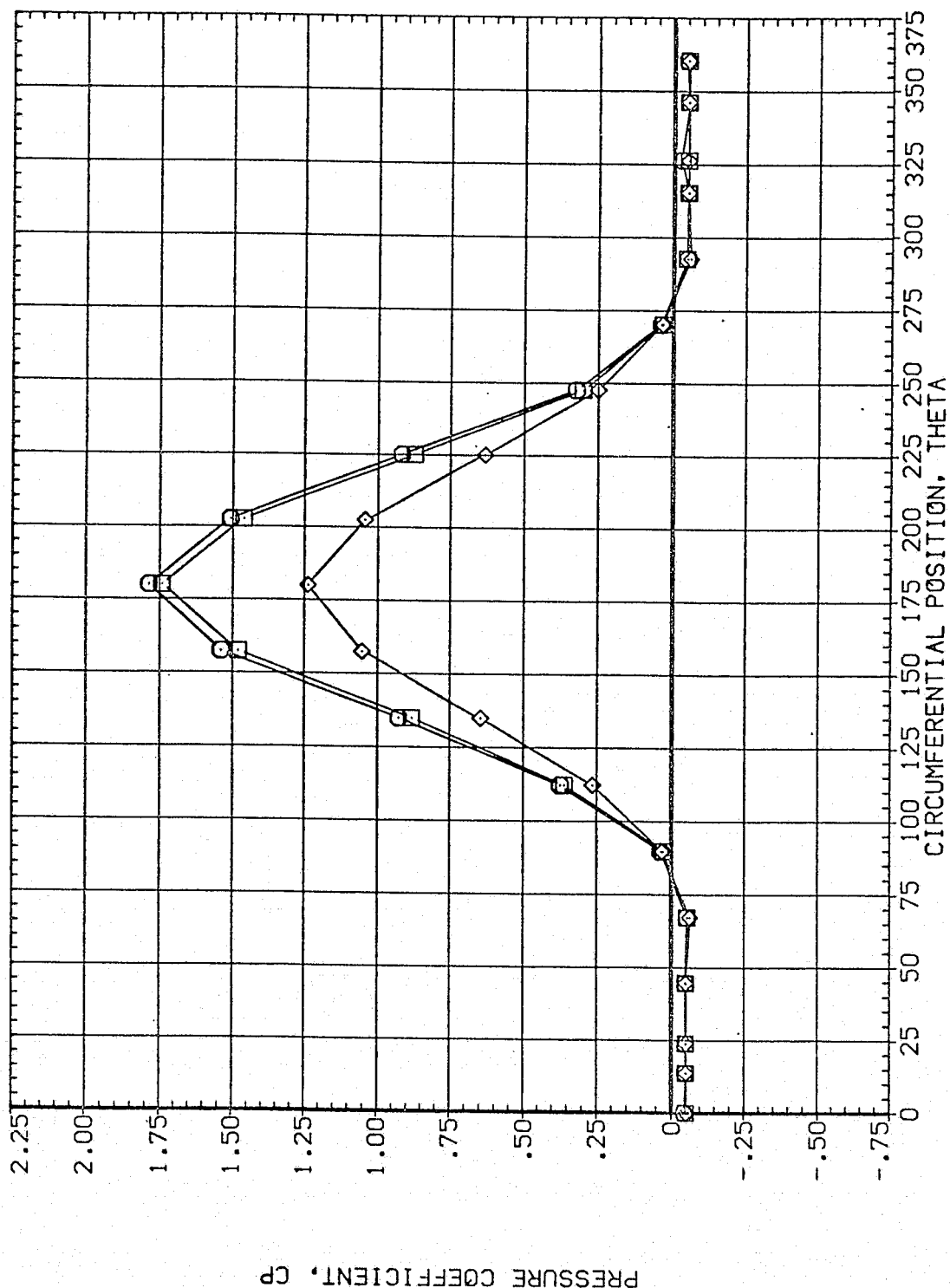


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES		
					.000	OFFSET	50.000
□	.055	94.850	3.480	1000	2.000	PHI	.000
◇	.162						

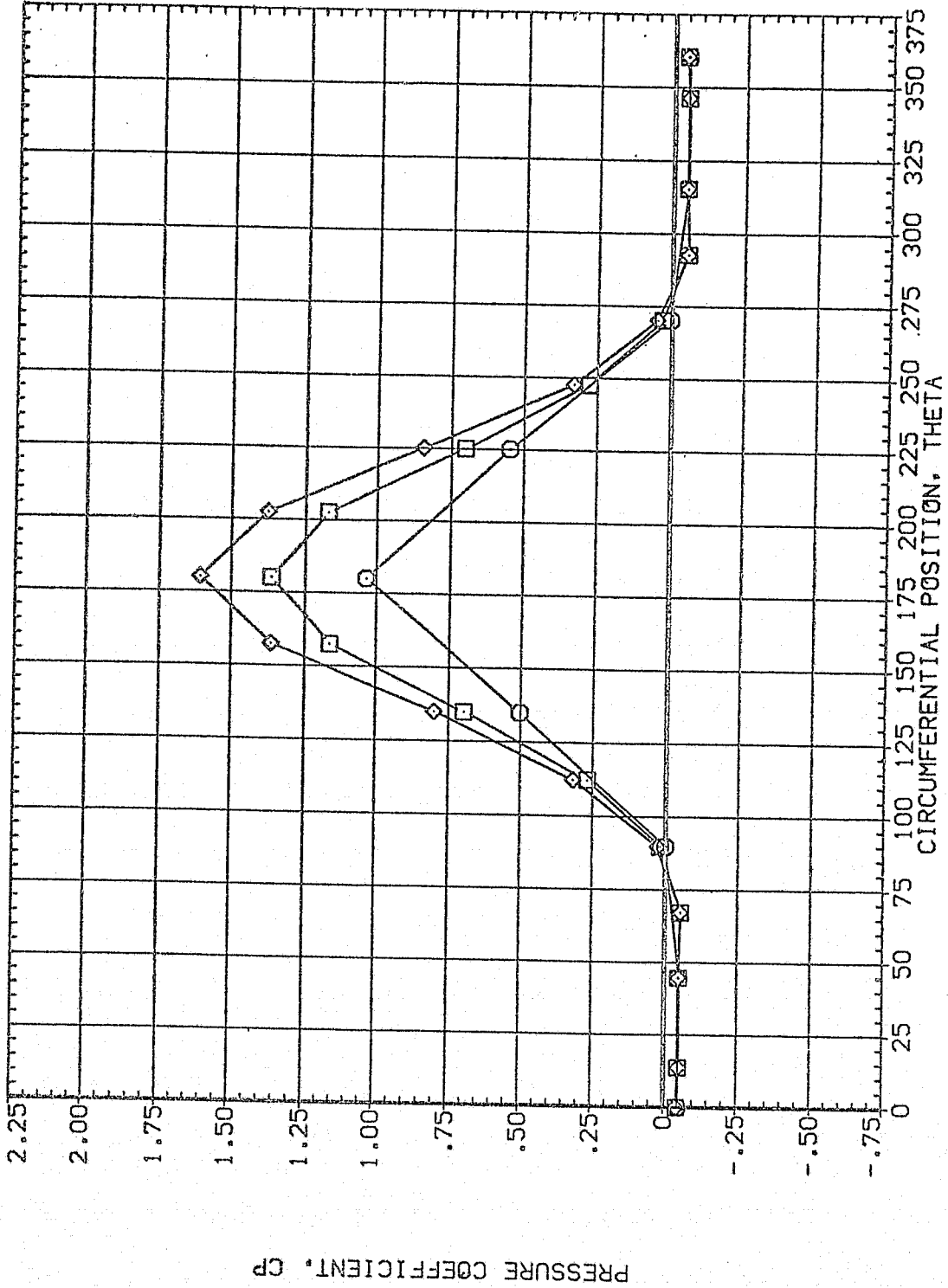


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.216	94.850	3.480	MOUNT	.000
□	.322				2.000
◇	.518				PHI
					90.000
					.000

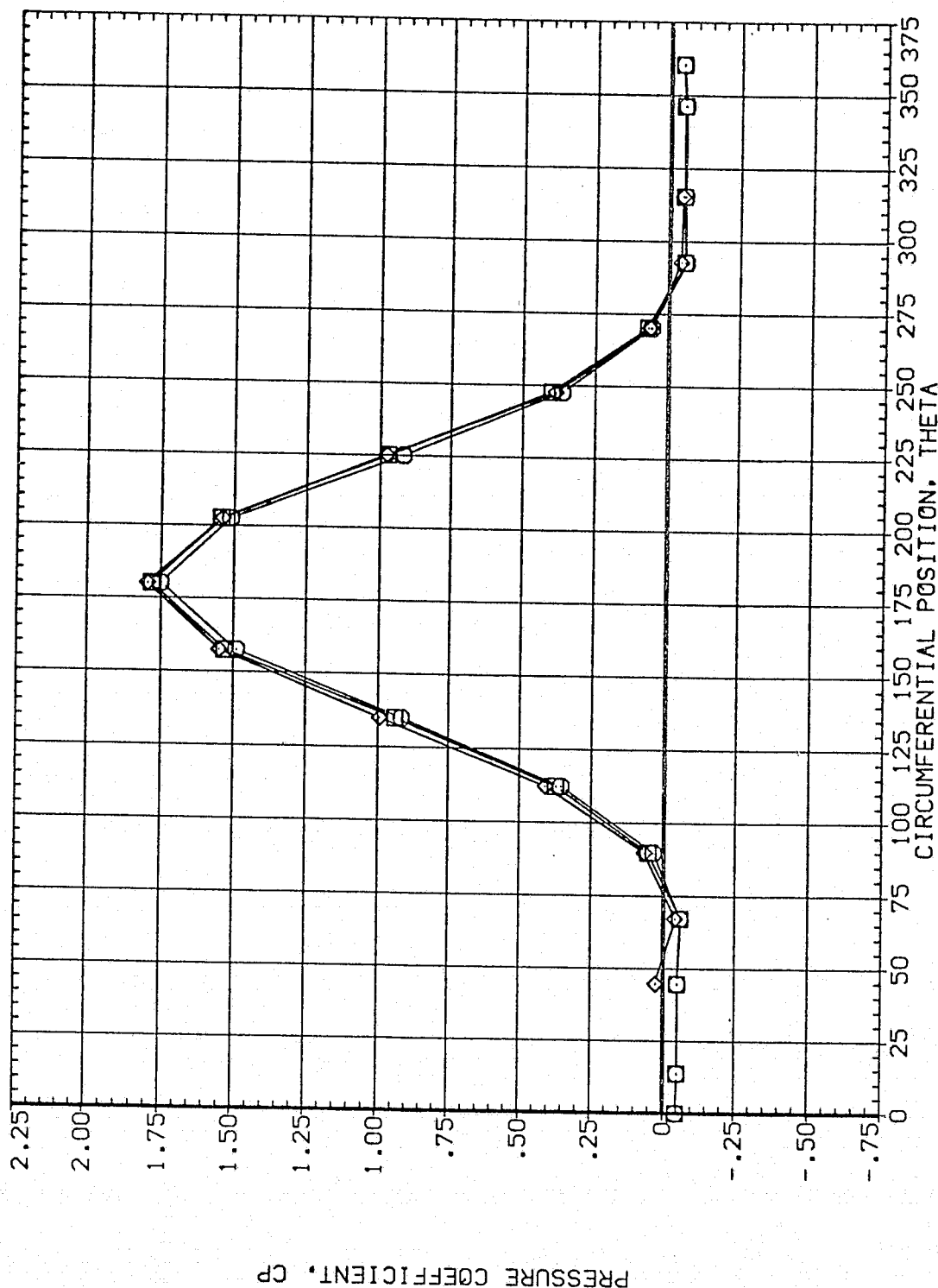


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
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MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.610	94.850	3.480	MOUNT	.000 OFFSET
□	.735				2.000 PHI
◇	.860				90.000

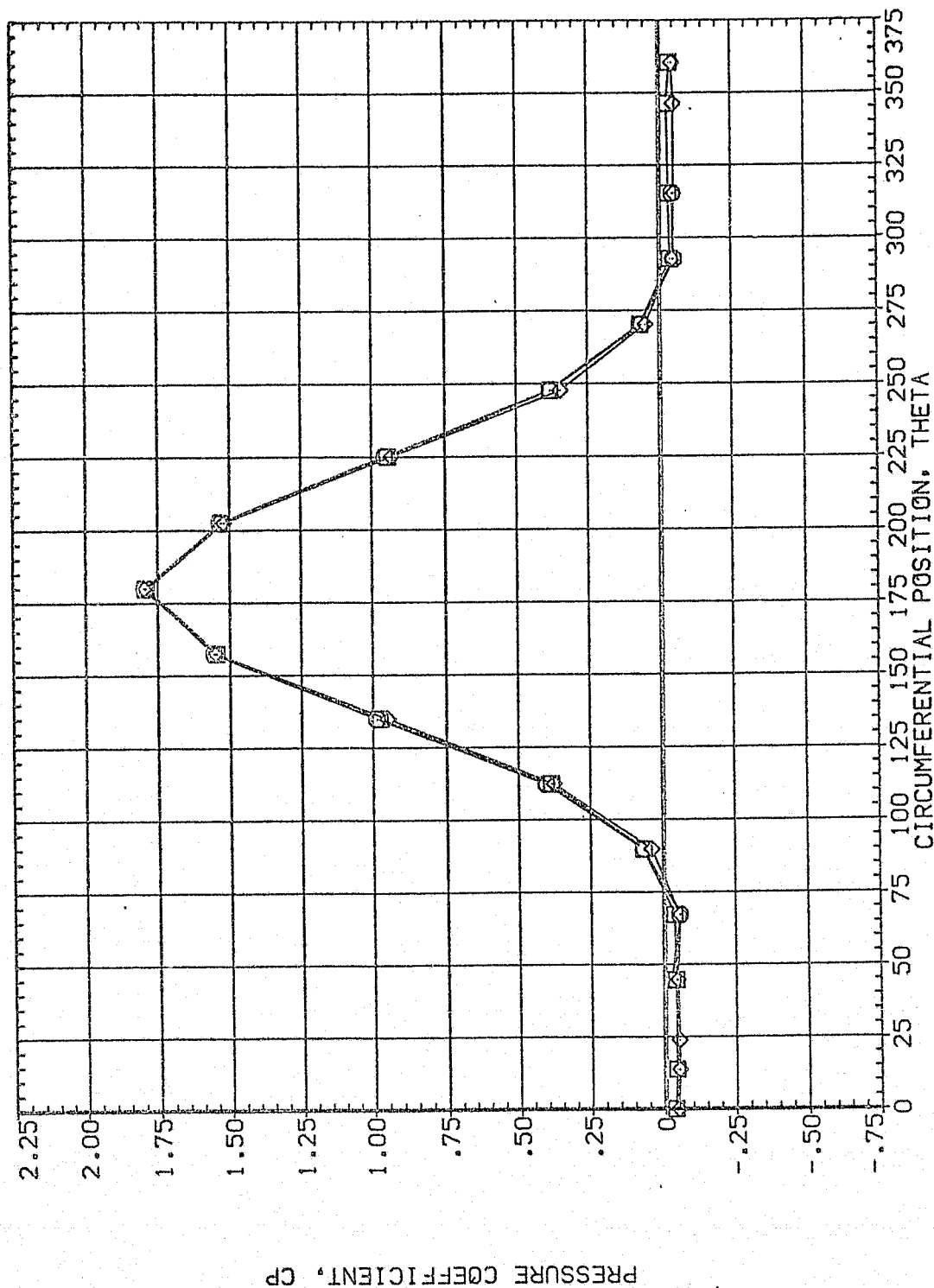


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL X/LB ALPHA MACH  
 O .892 94.850 3.480  
 □ .923  
 ◇ .954

PARAMETRIC VALUES  
 BETA .000 OFFSET 90.000  
 MOUNT 2.000 PHI .000

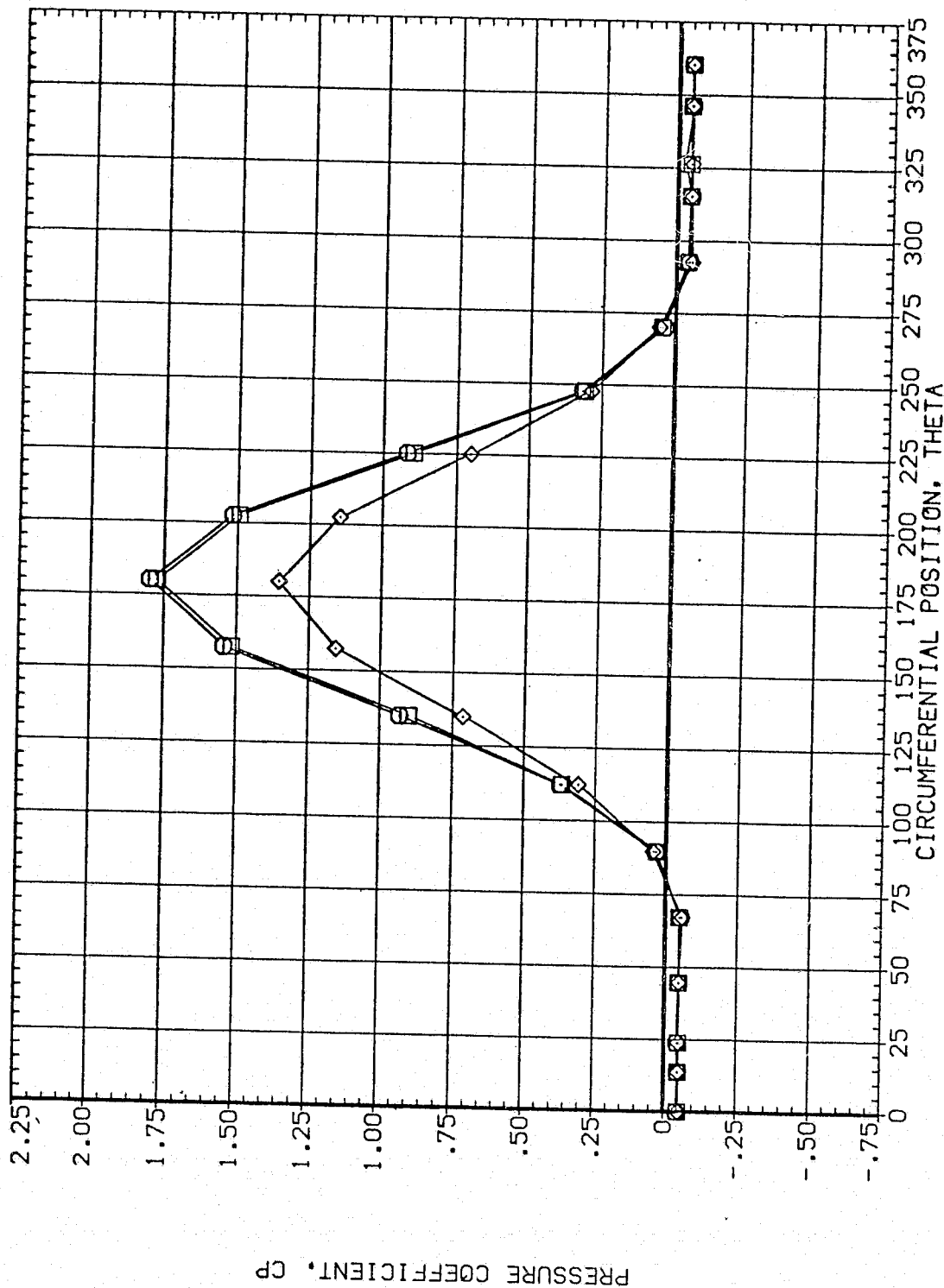


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK. T2 (P1A079)

SYMBOL	X/LB	ALPHA	NACH	BETA	PARAMETRIC VALUES
○	.055	57.830	3.480	MOUNT	.000
□	.108				OFFSET
◇	.162				PHI
					90.000
					.000

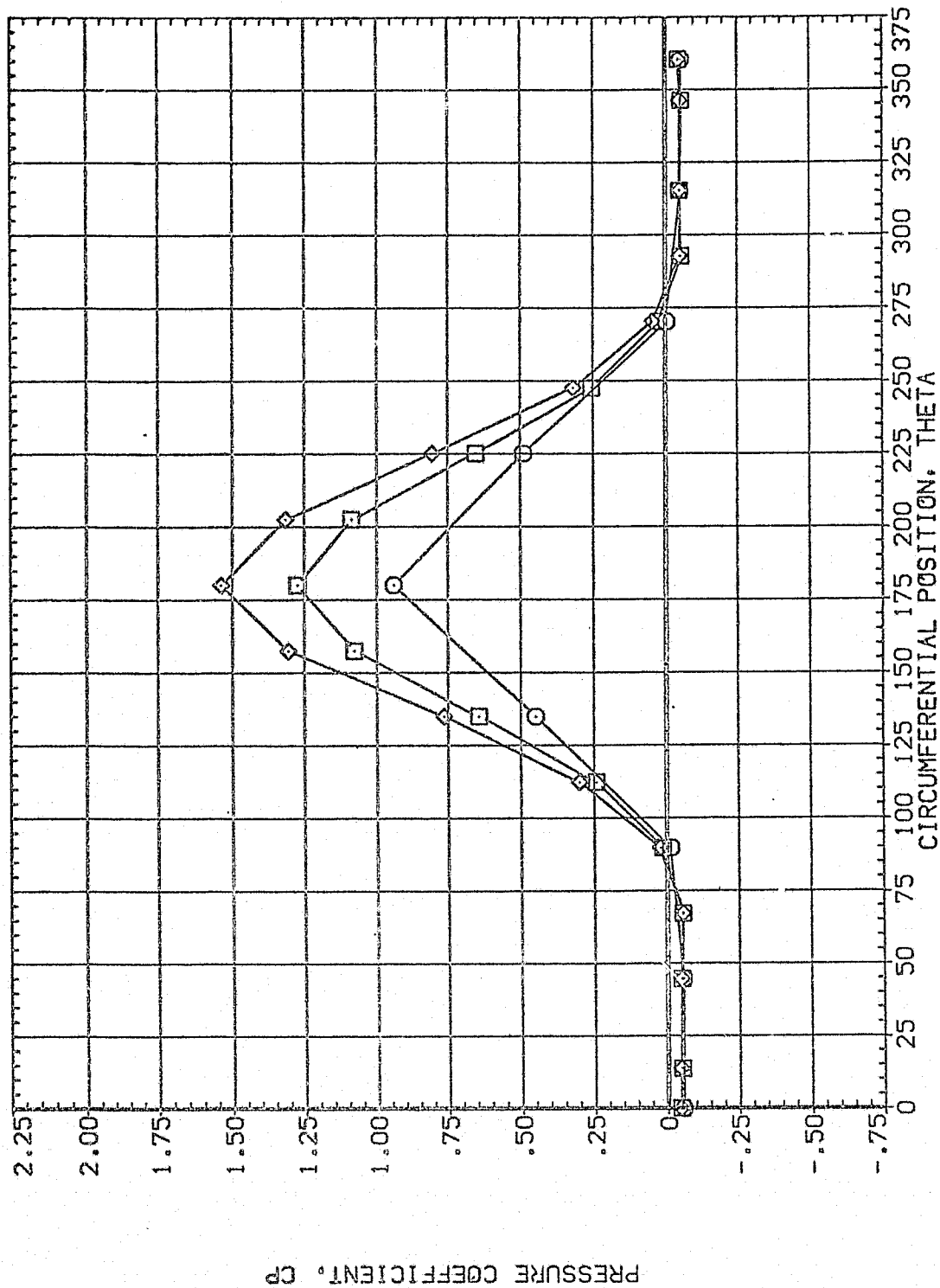


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A079)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.216	97.830	3.480	MOUNT	.000	.000
□	.322				2.000	
◇	.518					

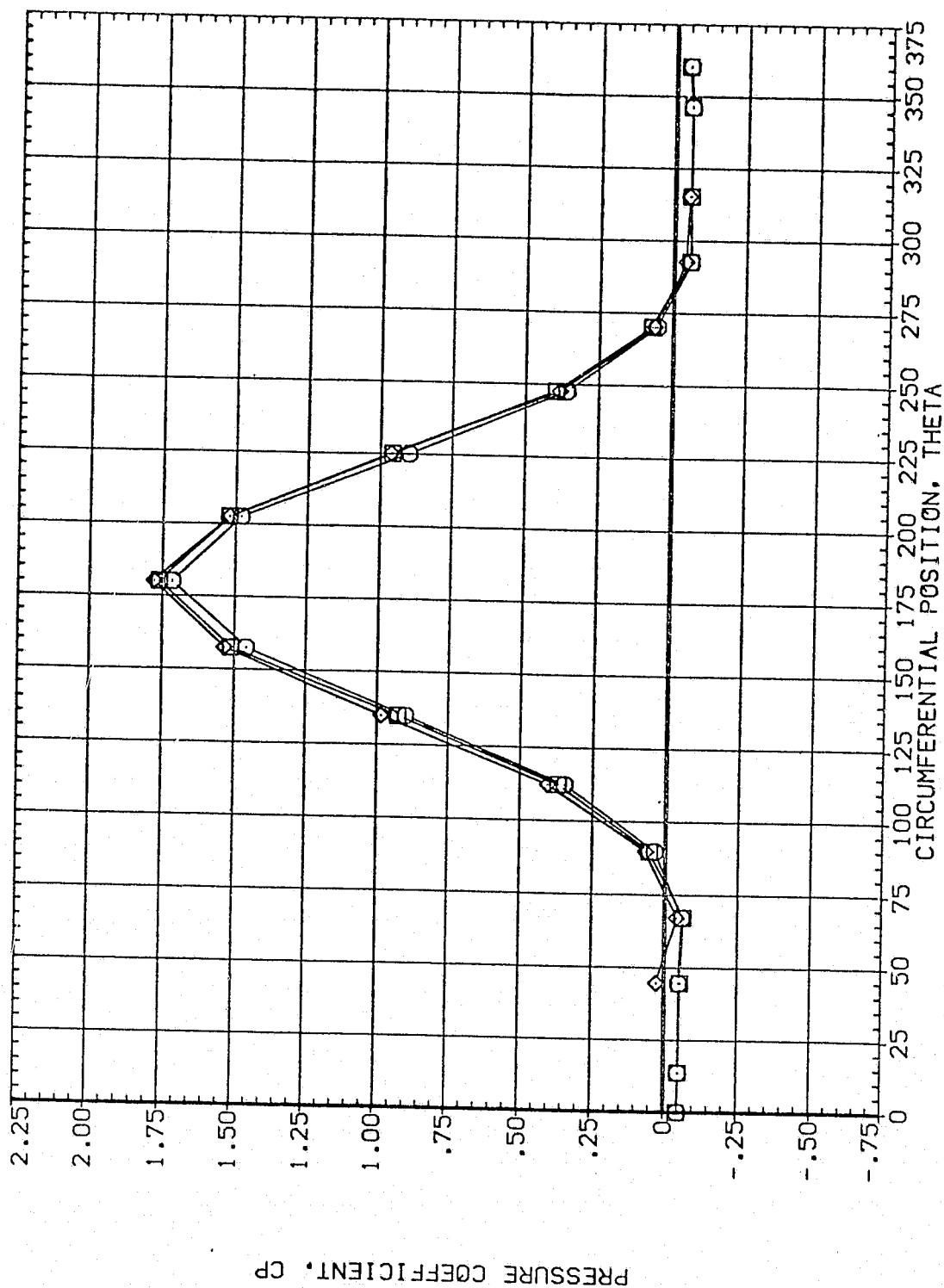


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA MOUNT	OFFSET PHI	90.000 PHI
□	.610	97.830	3.480	2.000	2.000	90.000
◇	.735					
◇	.860					

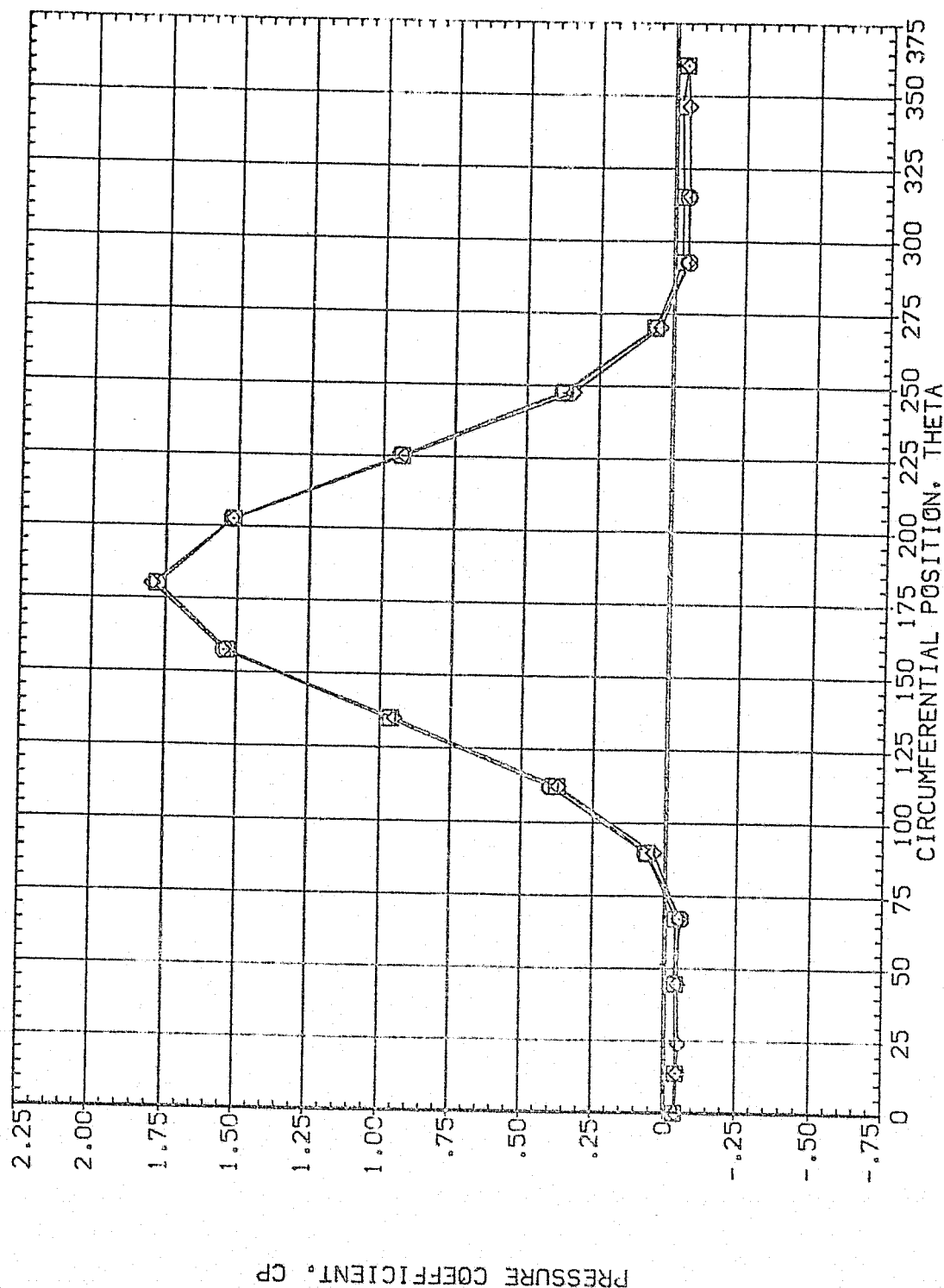


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL X/LB ALPHA MACH  
 ○ .892 97.830 3.480  
 □ .923  
 ◇ .954

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

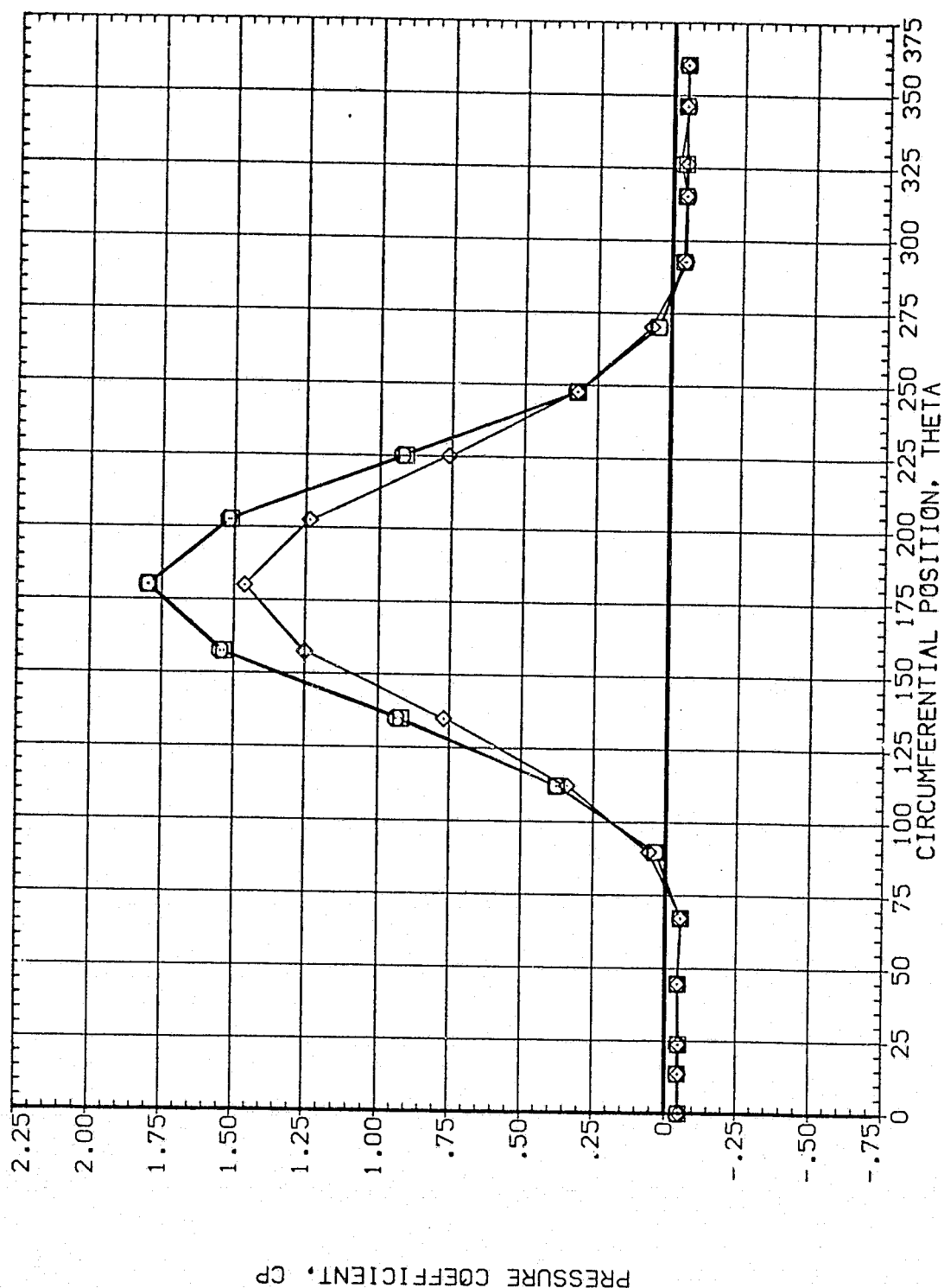


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
 PAGE 2596

MSFC 596 (7A-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	99.750	3.480	.000	.000	.000
□	.108			2.000		
◇	.162					

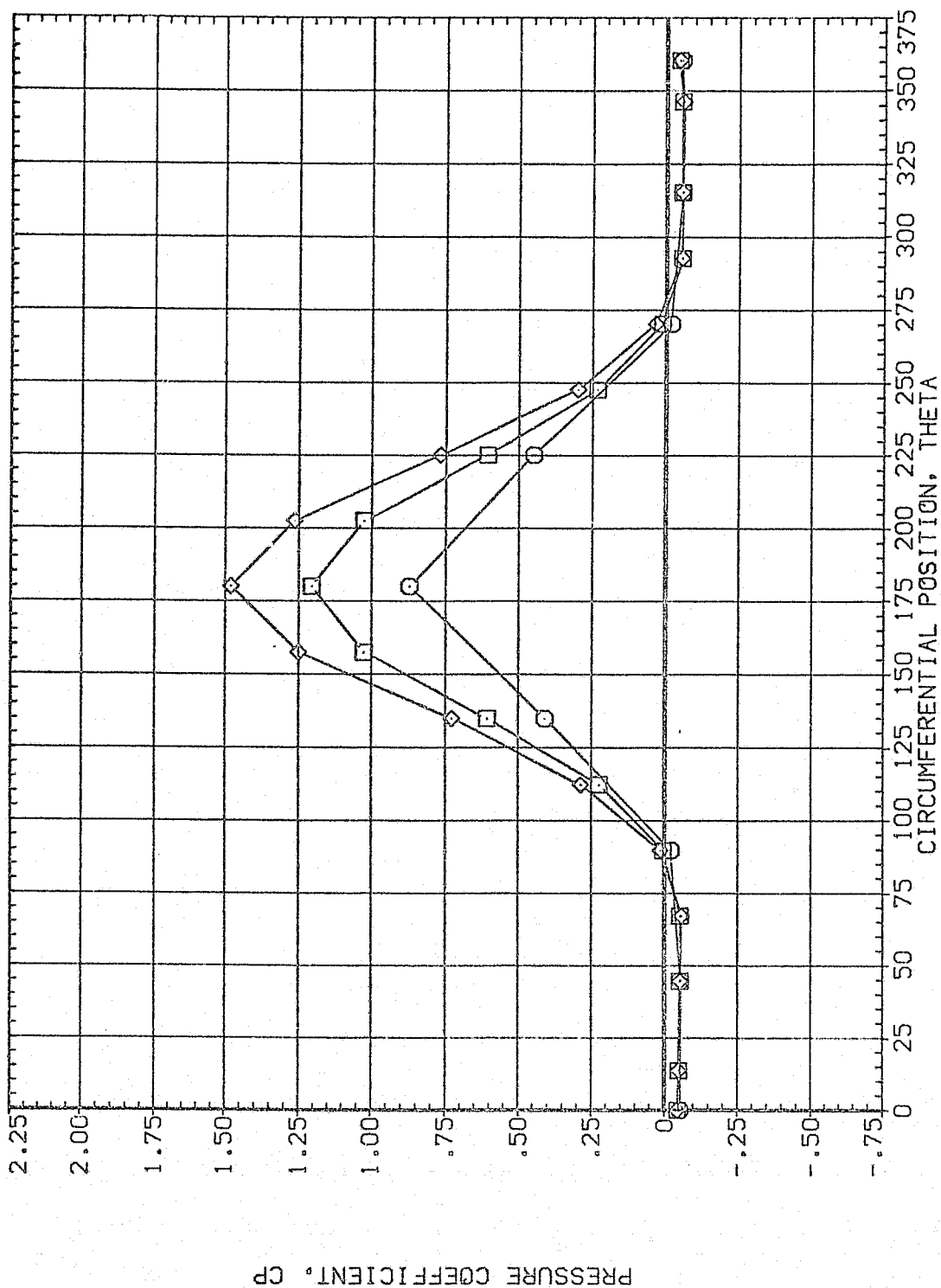


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.216	99.750	3.480	MOUNT	.000	90.000
□	.322				2.000	
◇	.518					.000

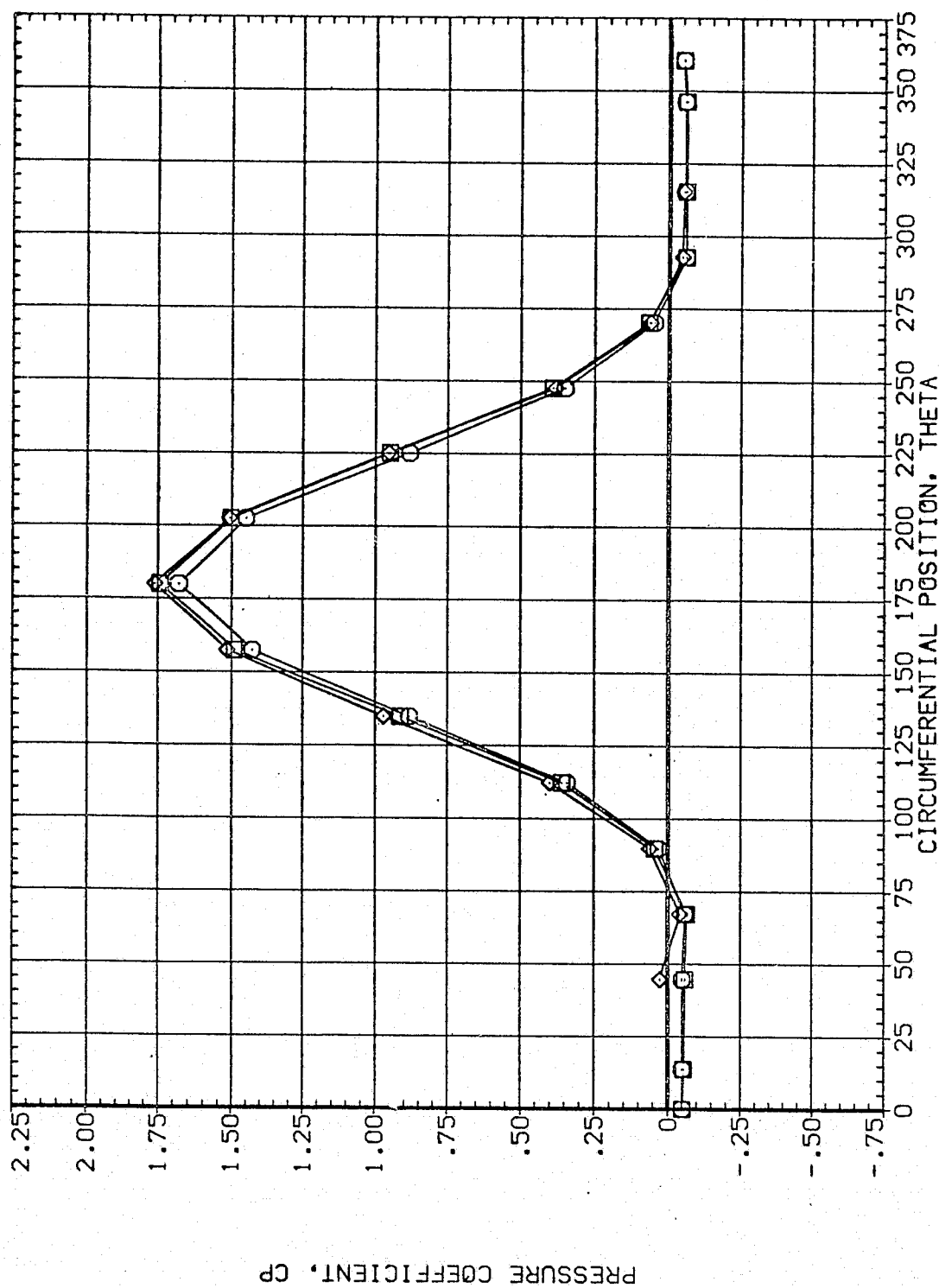


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	.610	99.750	3.480	MOUNT	PHI	.000
□	.735					
◇	.860					

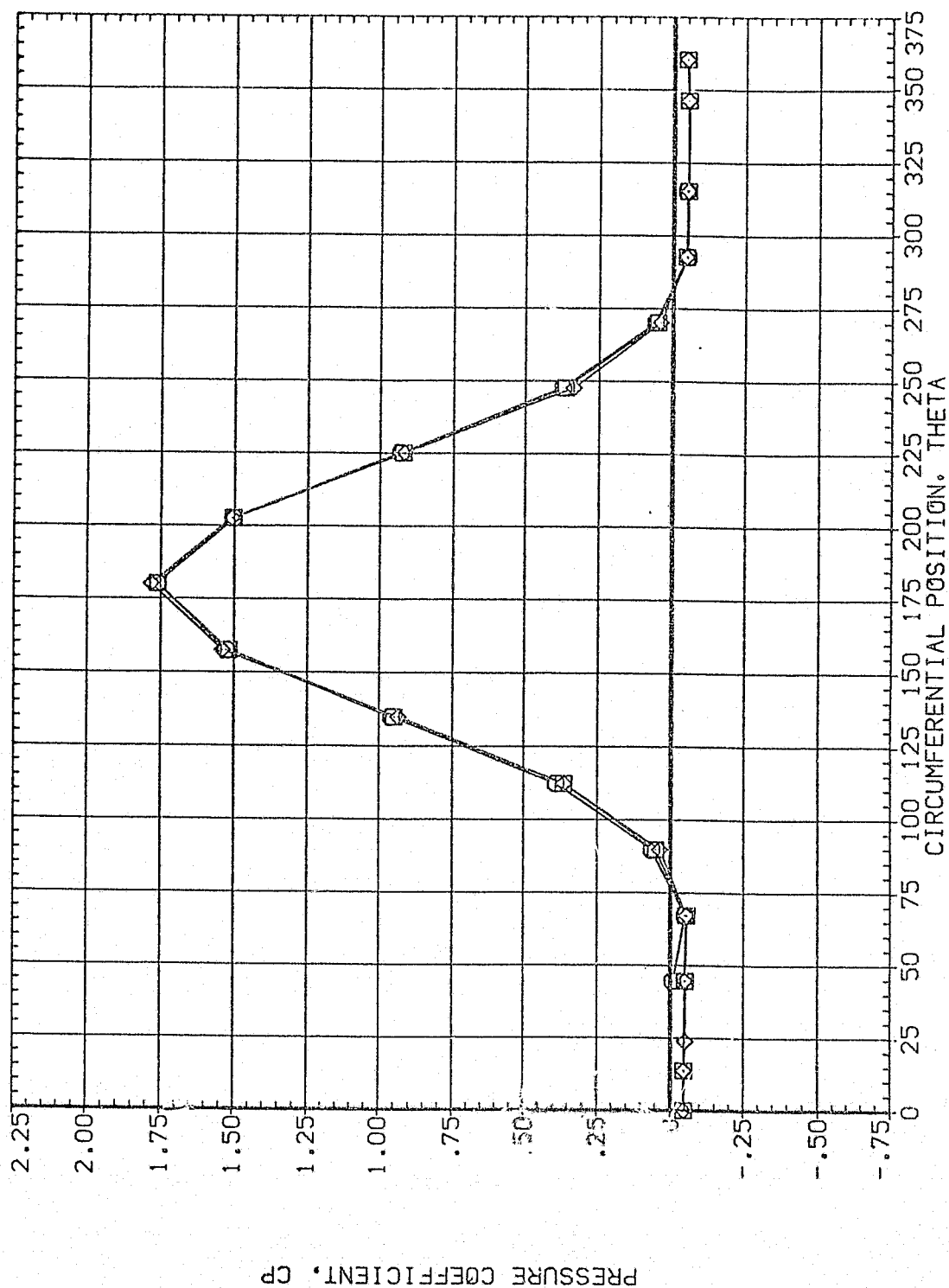


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

(P1A080)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL  
◇  
□

X/LB .892  
.923  
.954

ALPHA  
99.750

MACH  
3.480

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000

OFFSET  
PHI  
90.000  
.000

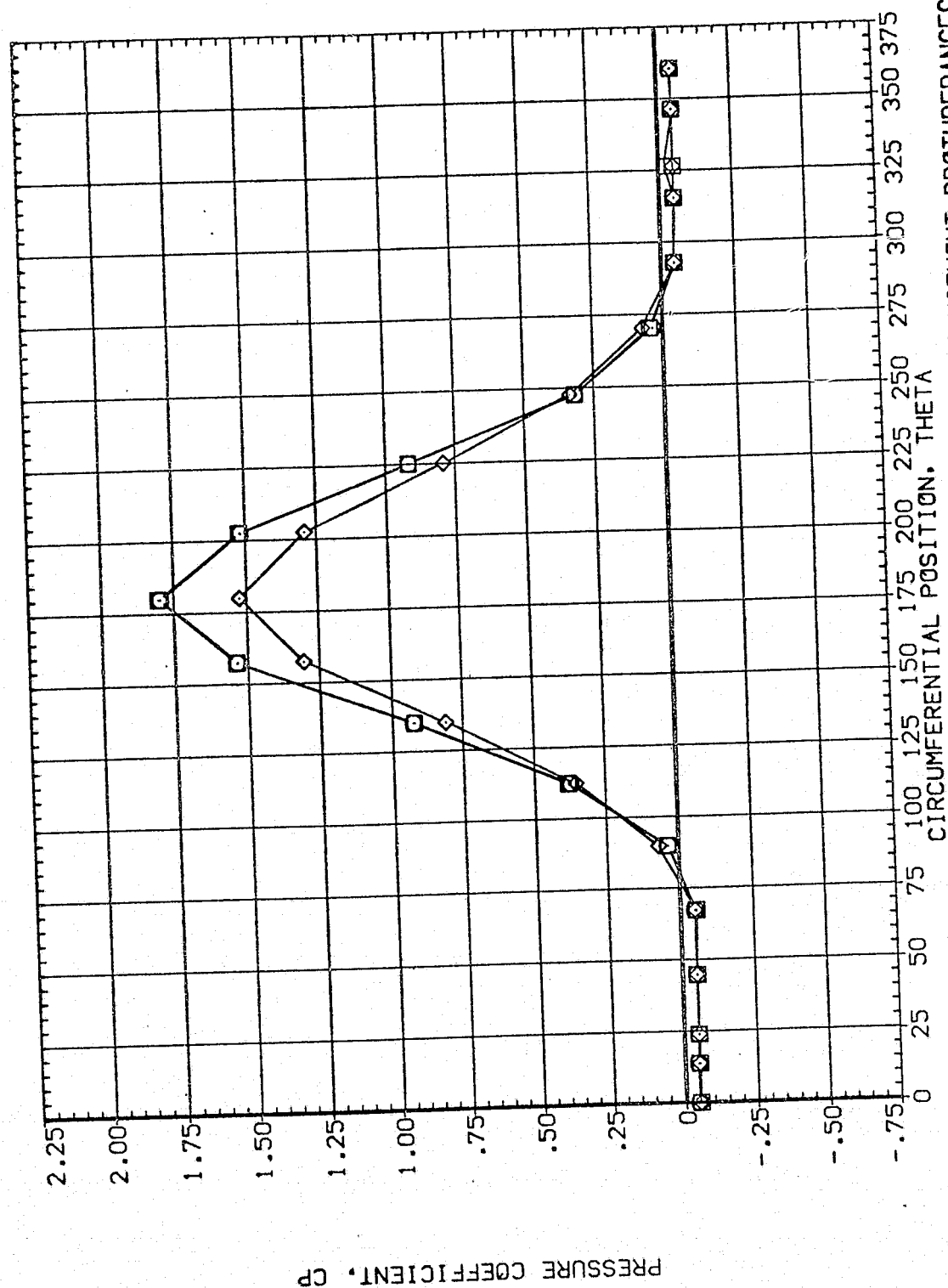


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	51.000	4.960	MOUNT	.000	60.000
□	.108				2.000	
◇	.162					.000

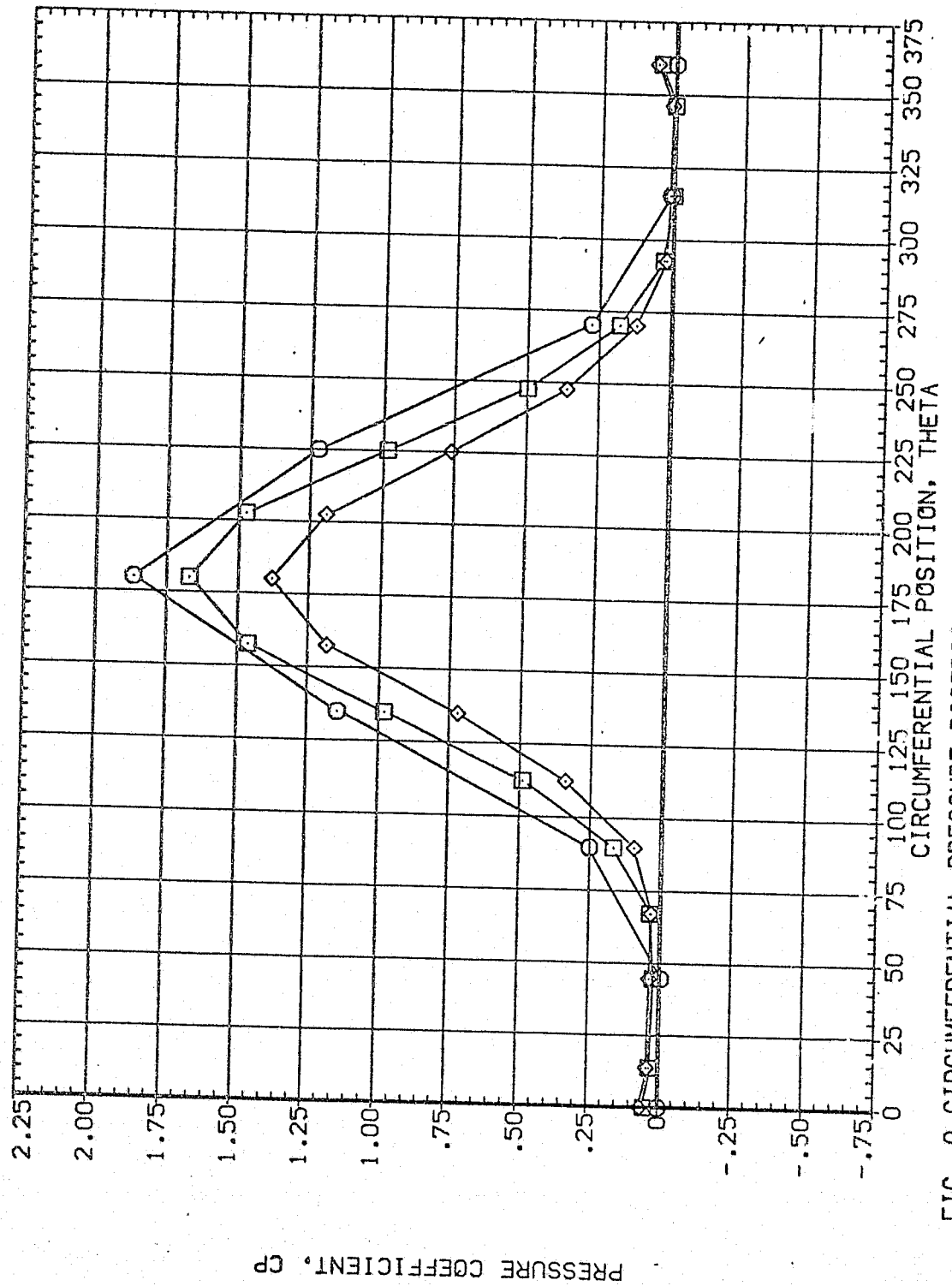


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A061)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.216	51.000	4.960	MOUNT	.000
□	.322			PHI	2.000
◇	.518				60.000

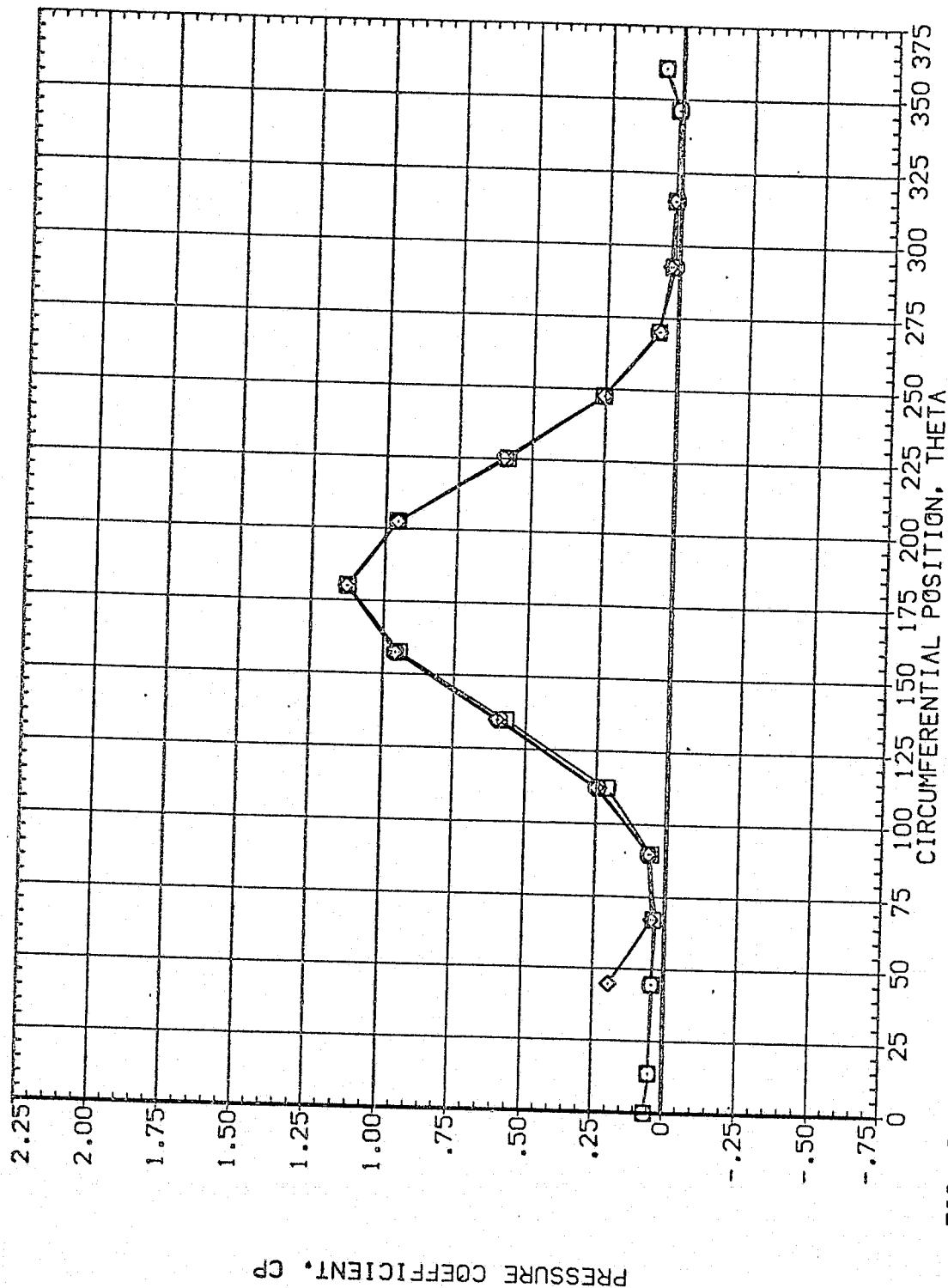


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A061)

SYMBOL  
 ○ □ ◇

X/LB  
 .610  
 .735  
 .860

ALPHA  
 51.000

MACH  
 4.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 2.000  
 60.000  
 60.000  
 OFFSET  
 PHI

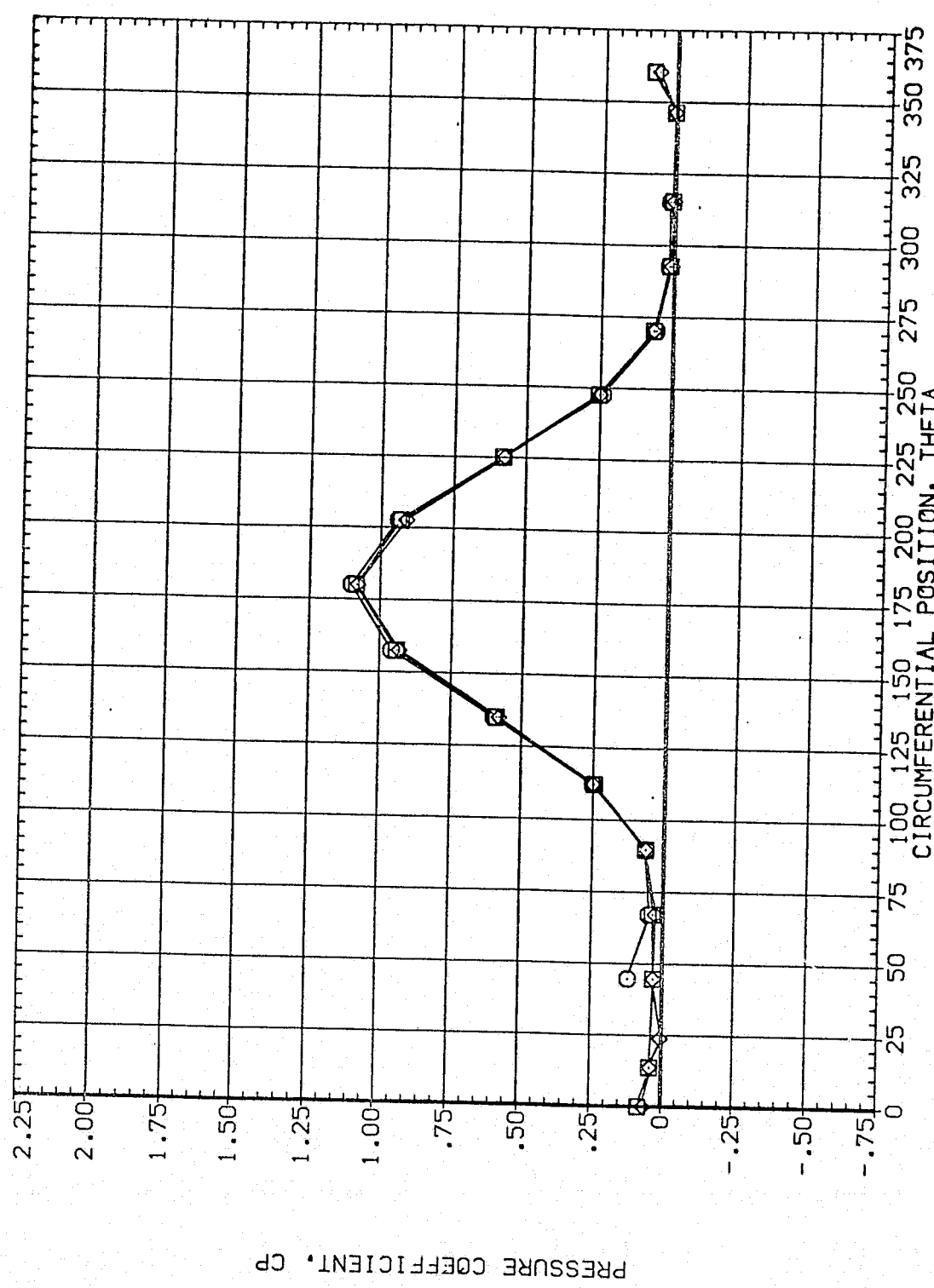


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
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SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	.892	51.000	4.960	HUNT	.000 OFFSET
◇	.923				2.000 PHI
	.954				

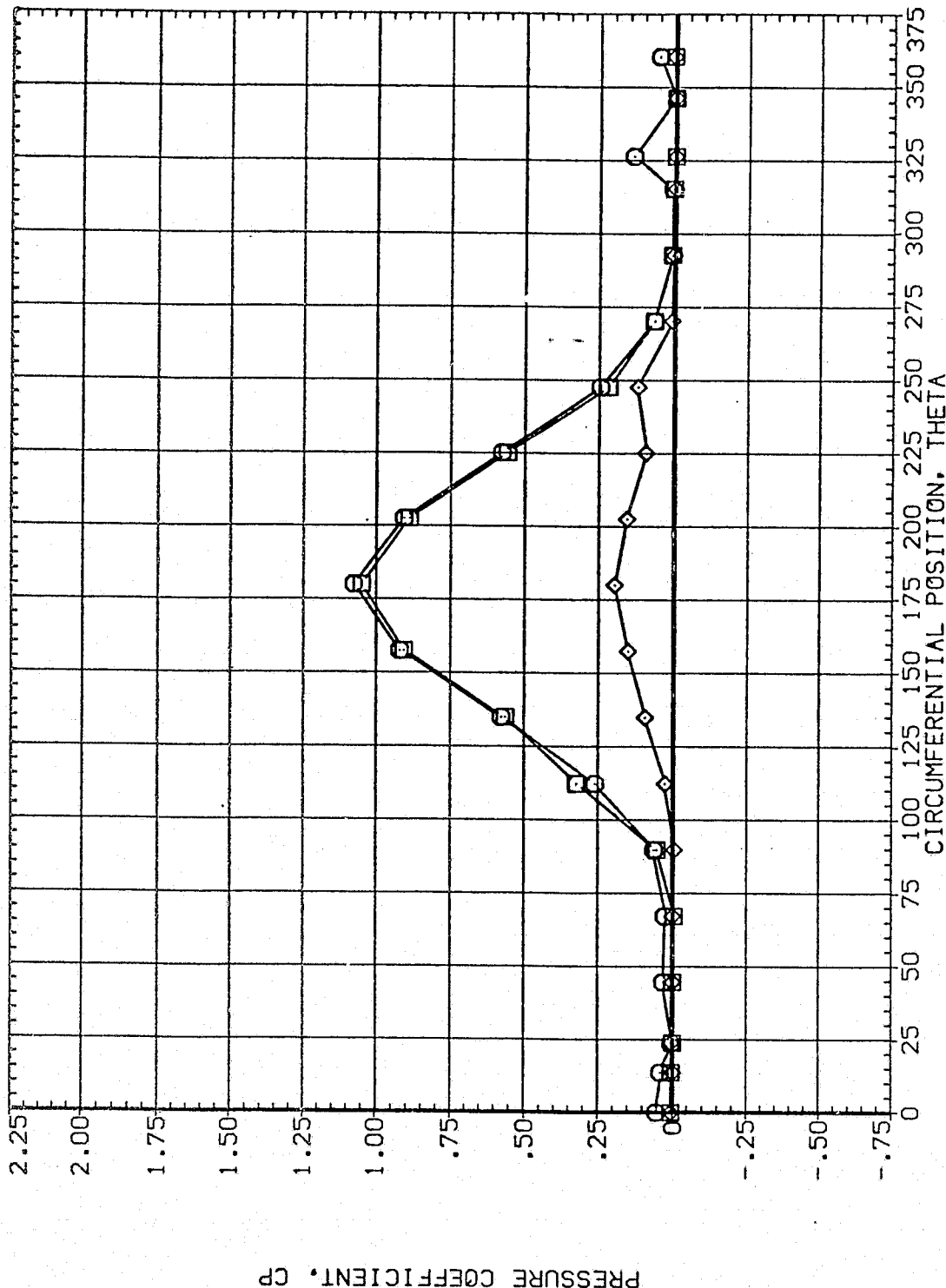


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	54.130	4.960	MOUNT	2.000	60.000
□	.108					.000
◇	.162					

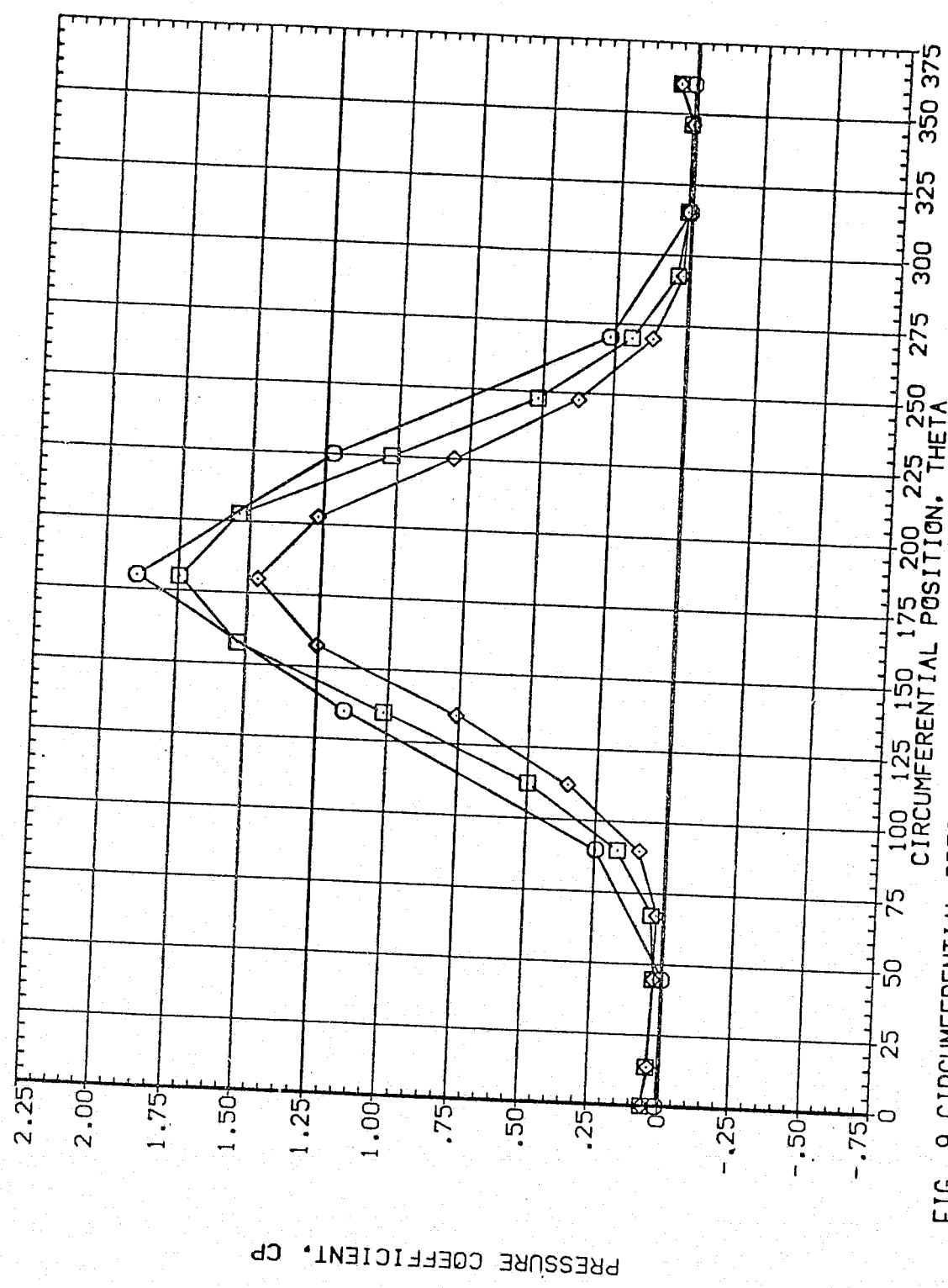


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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SYMBOL  
 □  
 ◇

X/LB .216  
 .322  
 .518

ALPHA 54.130

MACH 4.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000  
 2.000  
 60.000  
 .000  
 OFFSET  
 PHI

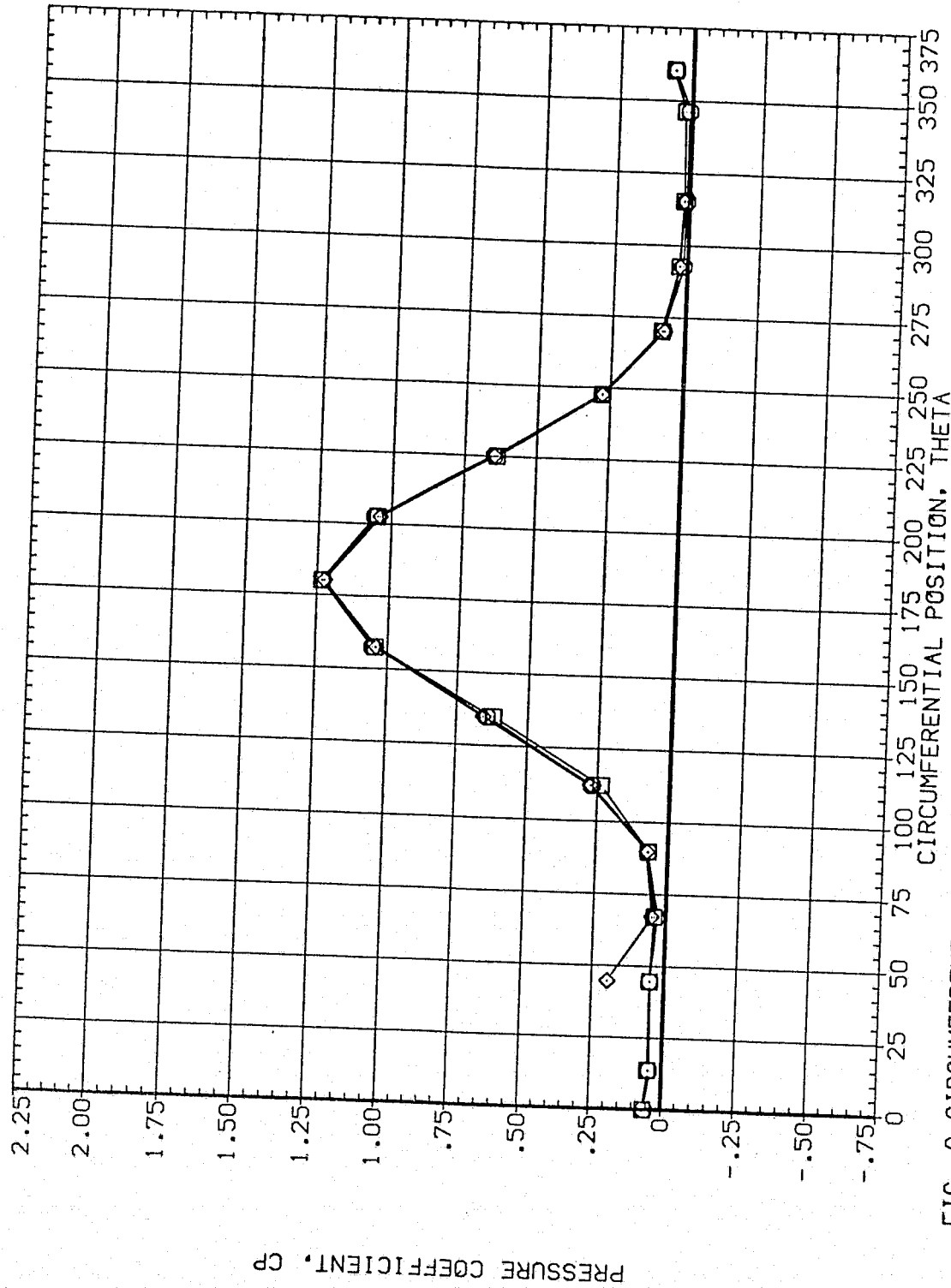


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A062)

SYMBOL X/LB ALPHA MACH  
 O .610 54.130 4.960  
 □ .735  
 ◇ .860

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 60.000  
 .000

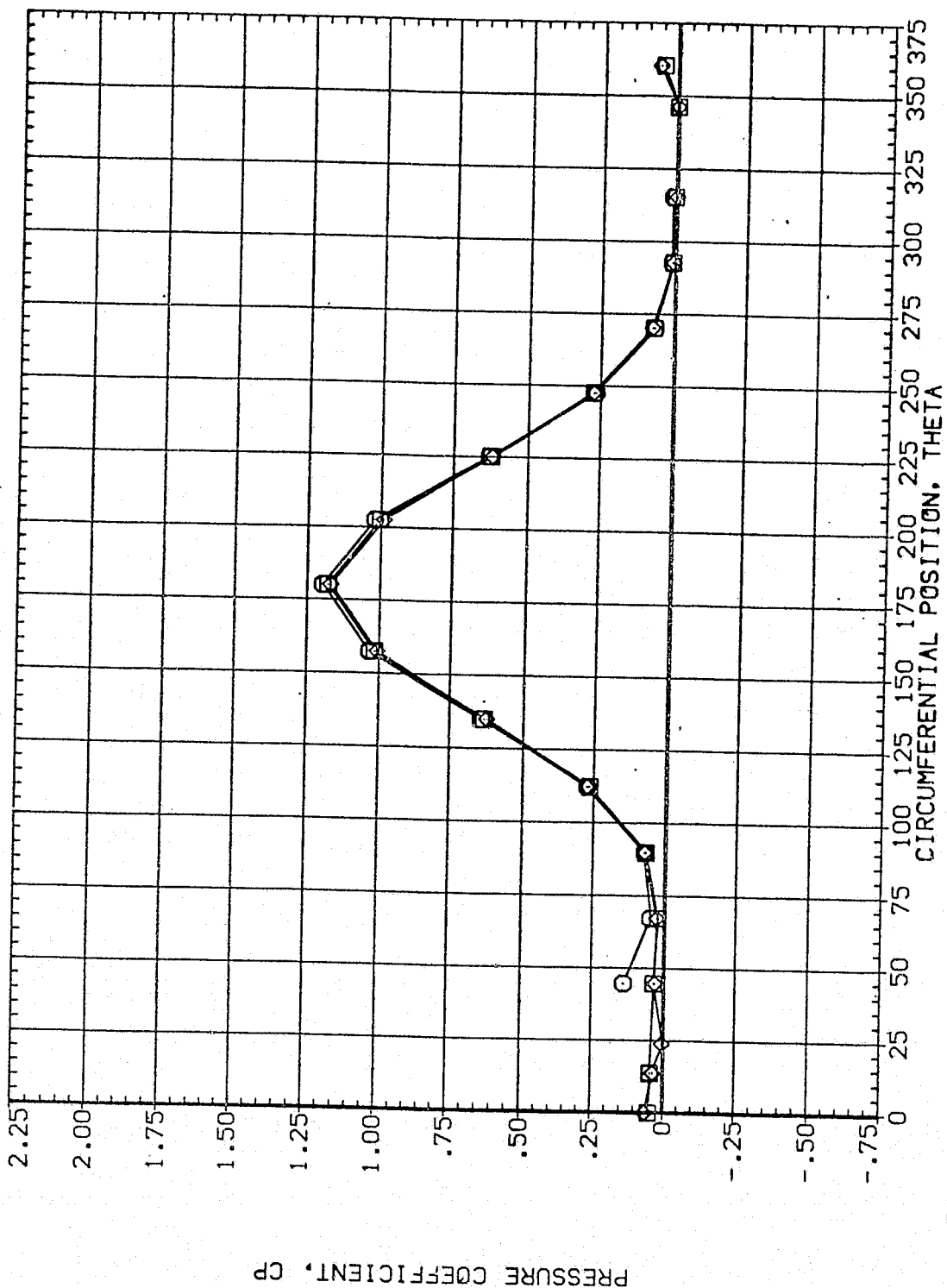


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	54.130	4.960	MOUNT	.000 OFFSET
□	.923				2.000 PHI
◇	.954				60.000

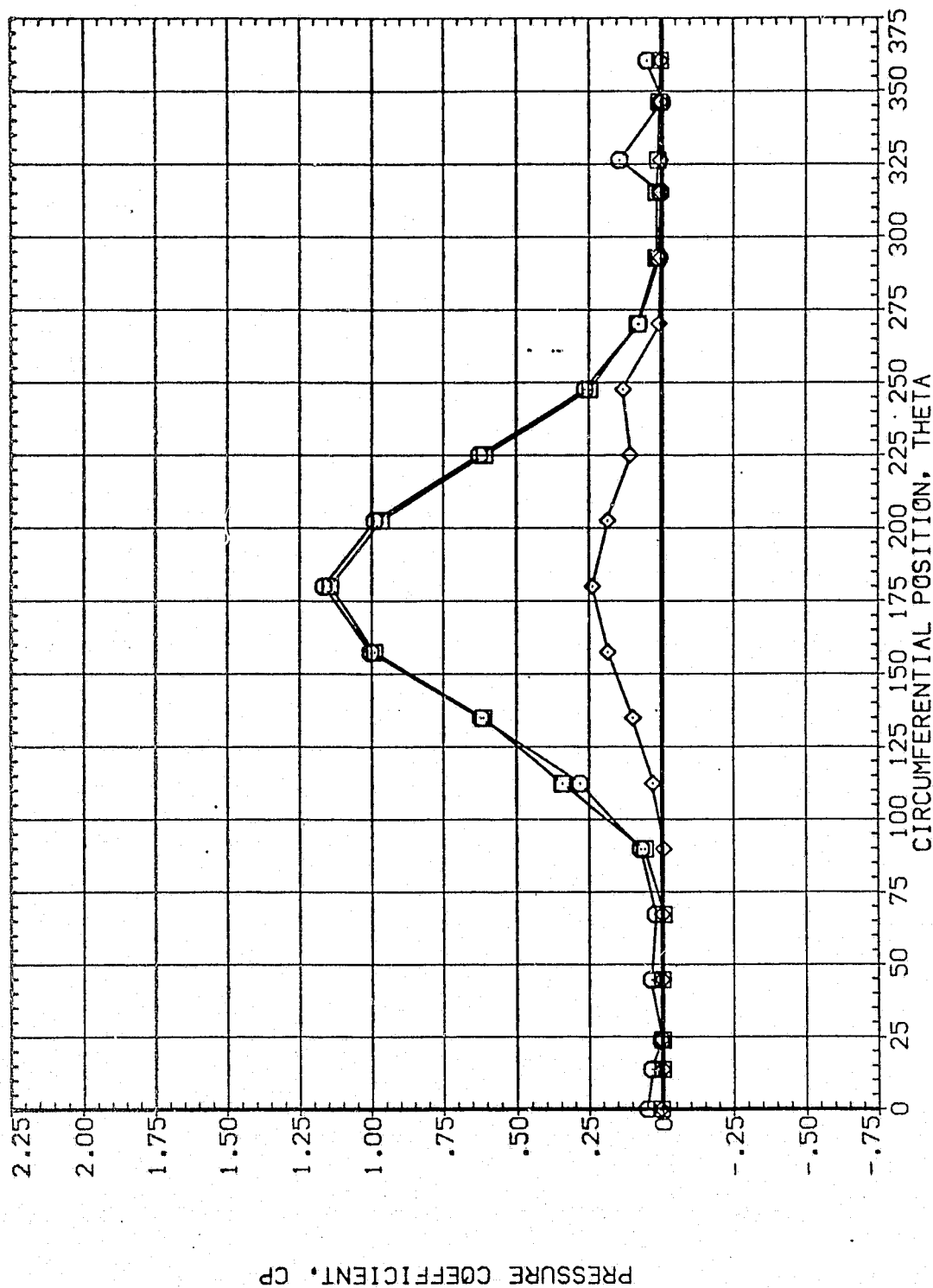


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	57.130	4.960	.000	.000	.000
□	.108			2.000		
◇	.162					

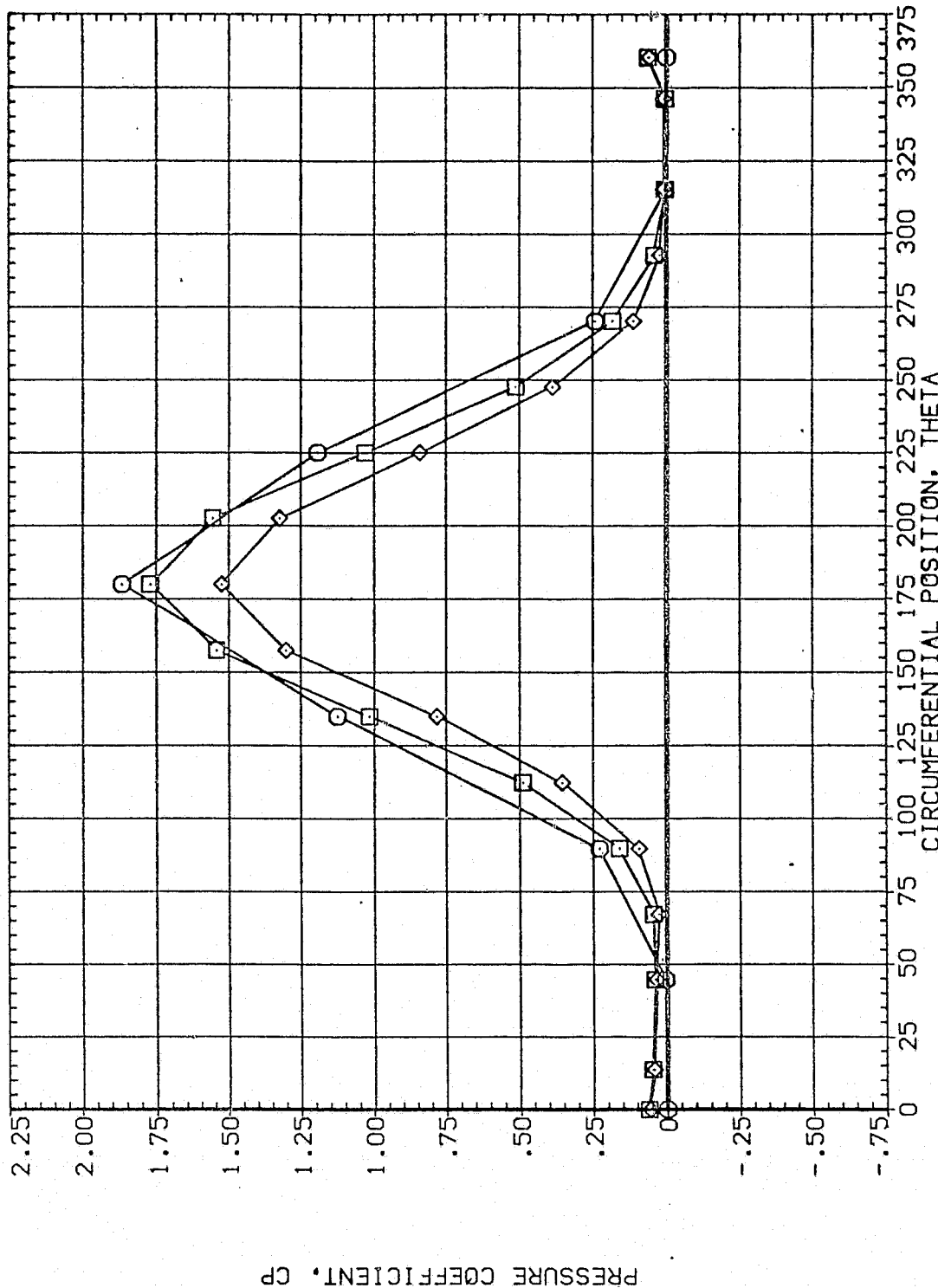


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	OFFSET
				HOUNT	2.000	PHI
	.216	.57.130	4.550		60.000	
	.322					
	.518					

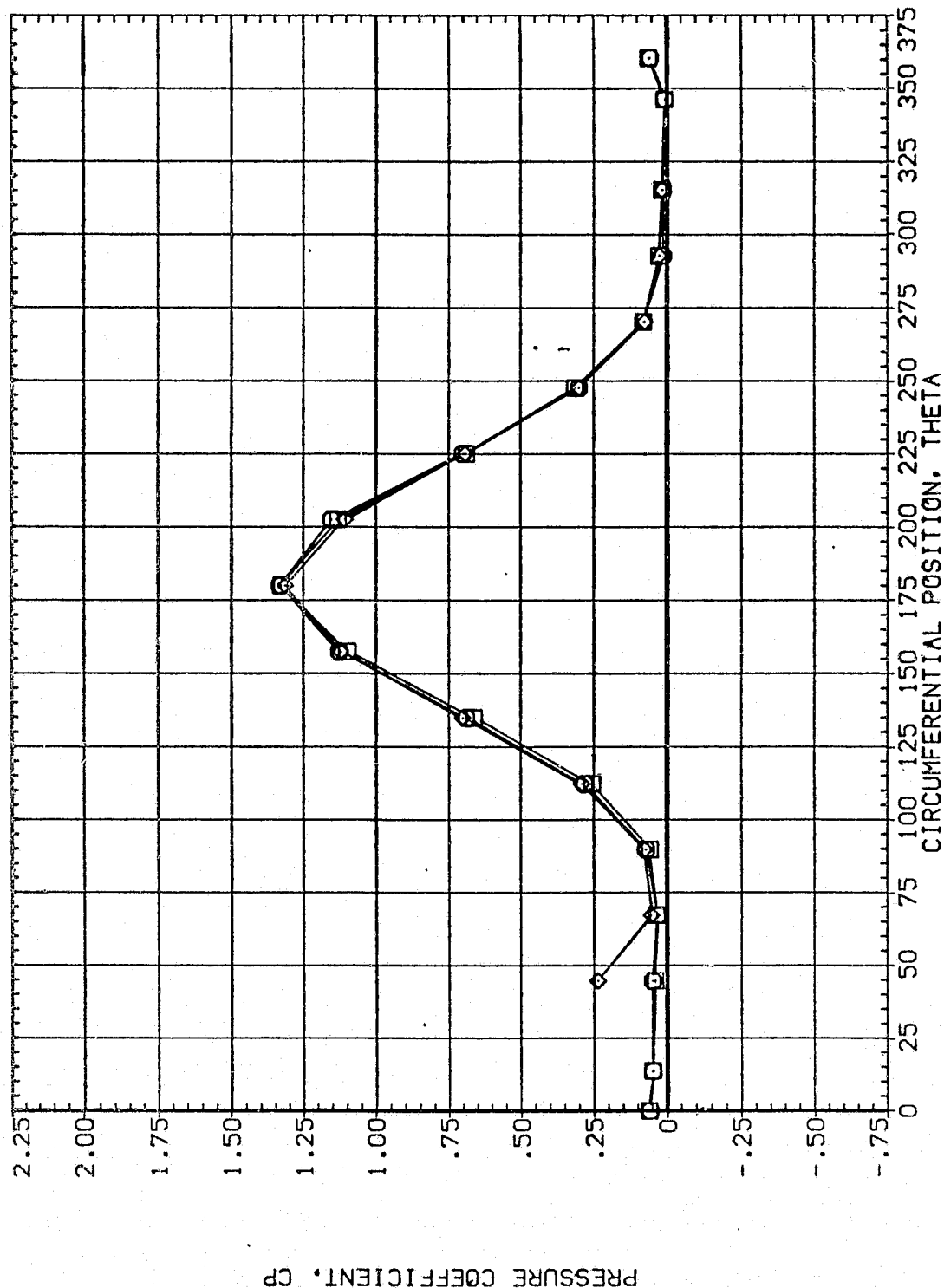


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A063)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	57.130	4.960	MOUNT	.000	.000
□	.735					
◇	.860					

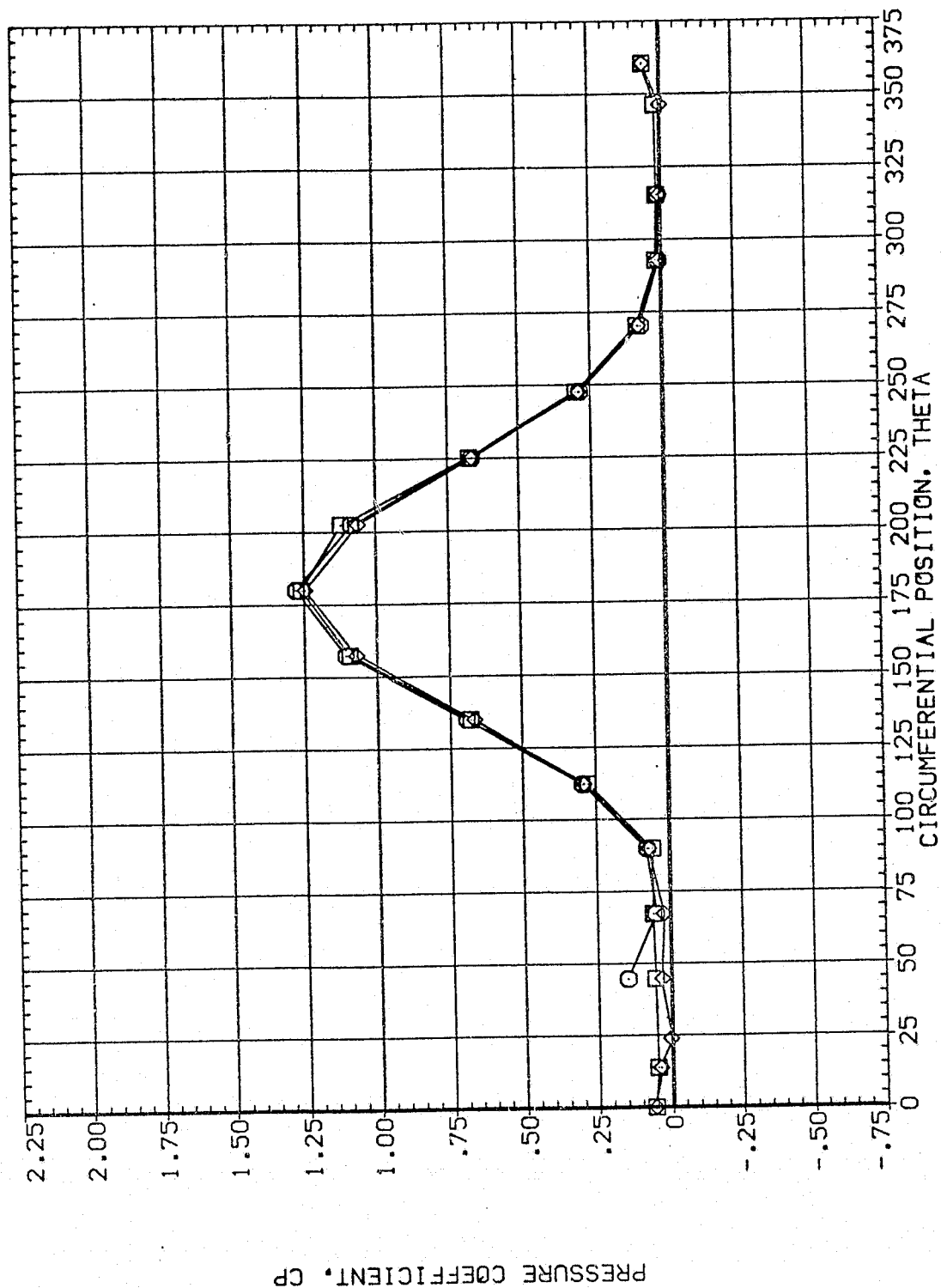


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A063)

SYMBOL  
 X/LB  
 .932  
 .923  
 .954

ALPHA  
 57.130  
 4.560

BETA  
 MOUNT  
 .000  
 2.000  
 .000  
 .000

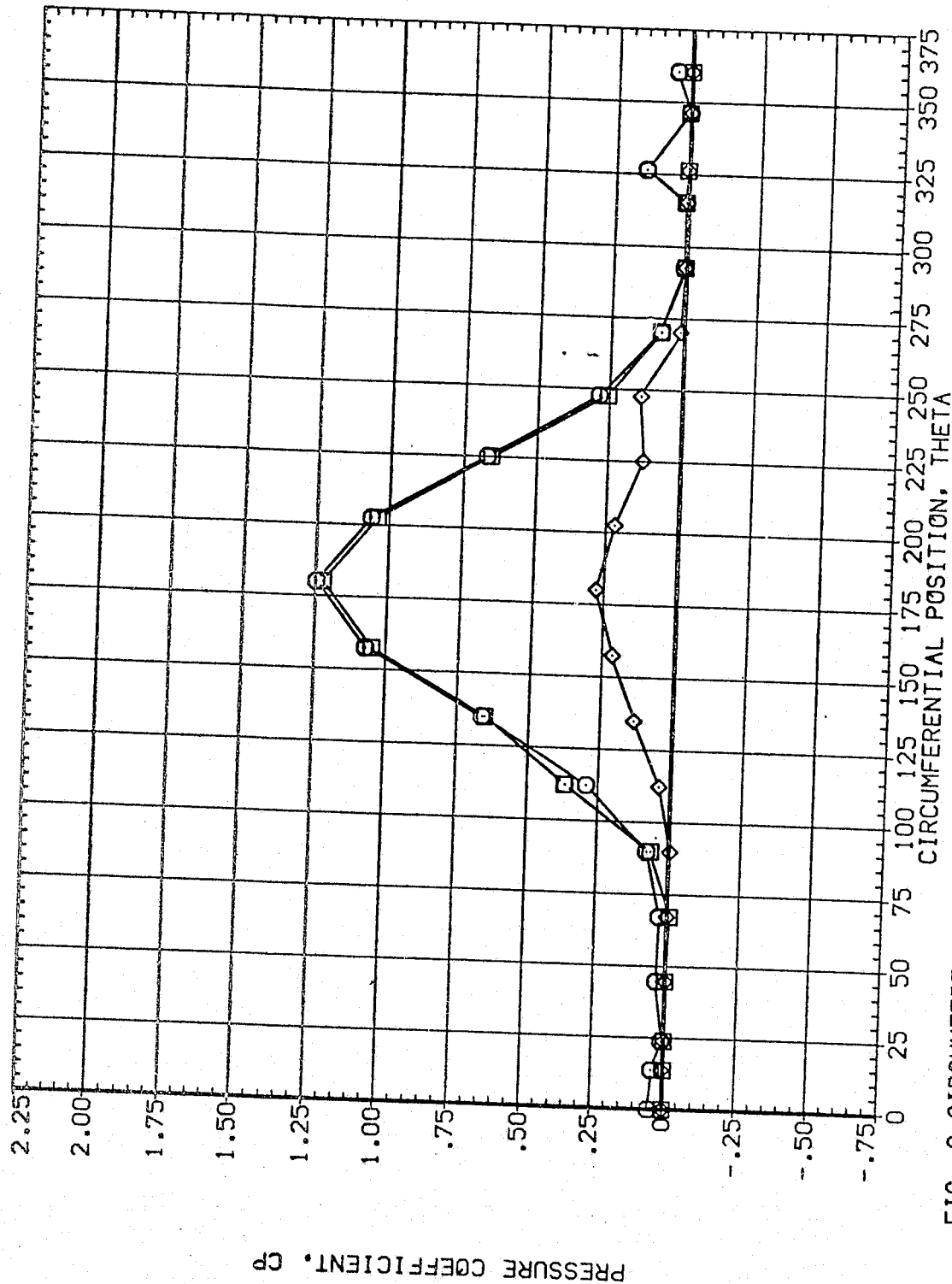


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
 PAGE 2612

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A064)

SYMBOL

X/LB  
.055  
.109  
.162

ALPHA  
60.130

MACH  
4.960

PARAMETRIC VALUES

BETA  
HIGHT

.000  
2.000

OFFSET  
PHI

60.000  
.000

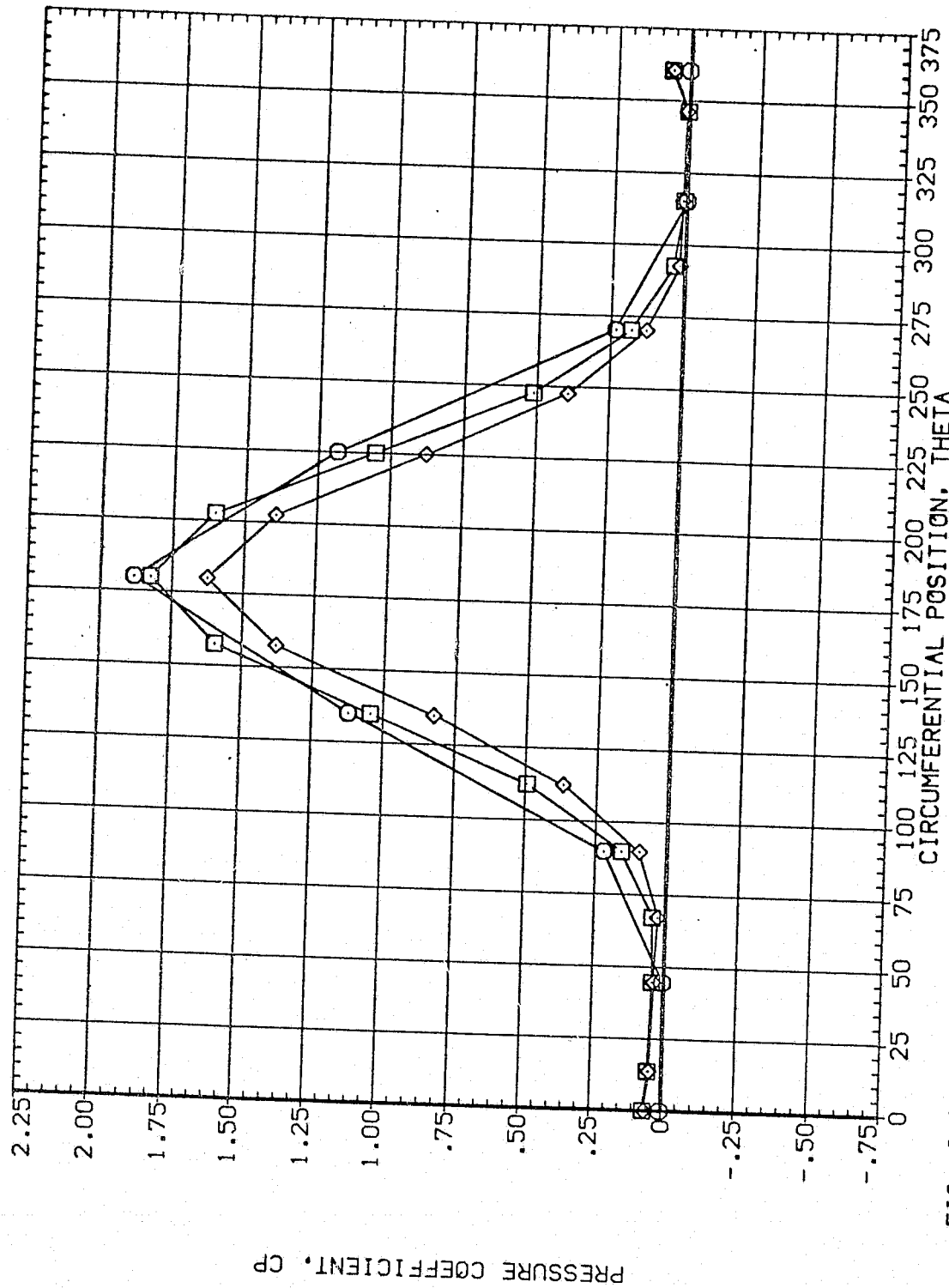


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL  
□  
◇

X/LB  
.216  
.322  
.518

ALPHA  
60.130

MACH  
4.960

BETA  
MOUNT

PARAMETRIC VALUES  
.000  
2.000

50.000  
.000

PHI

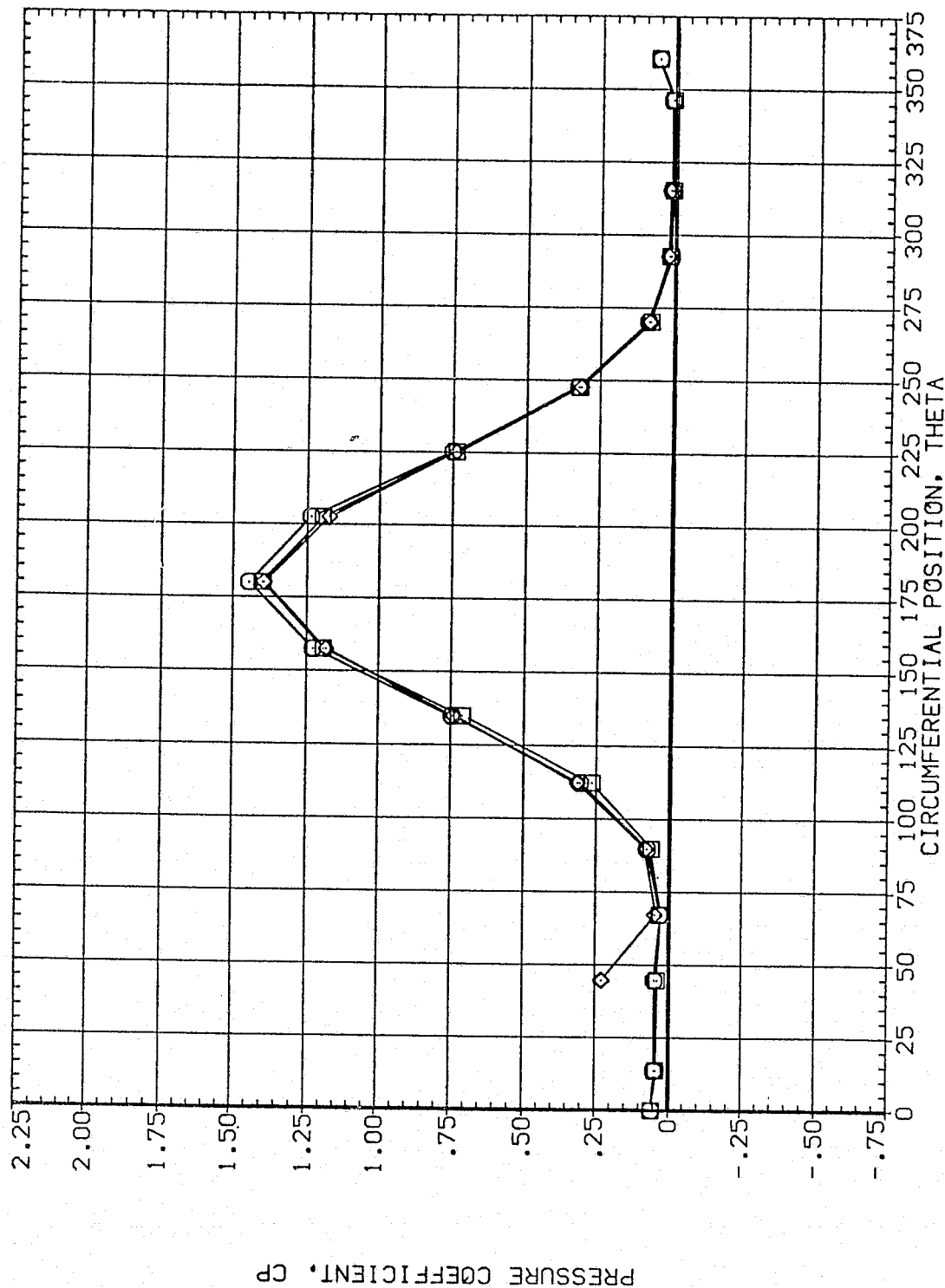


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.610	60.130	4.960	HOUNT	.000
□	.735			OFFSET	60.000
◇	.860			PHI	.000

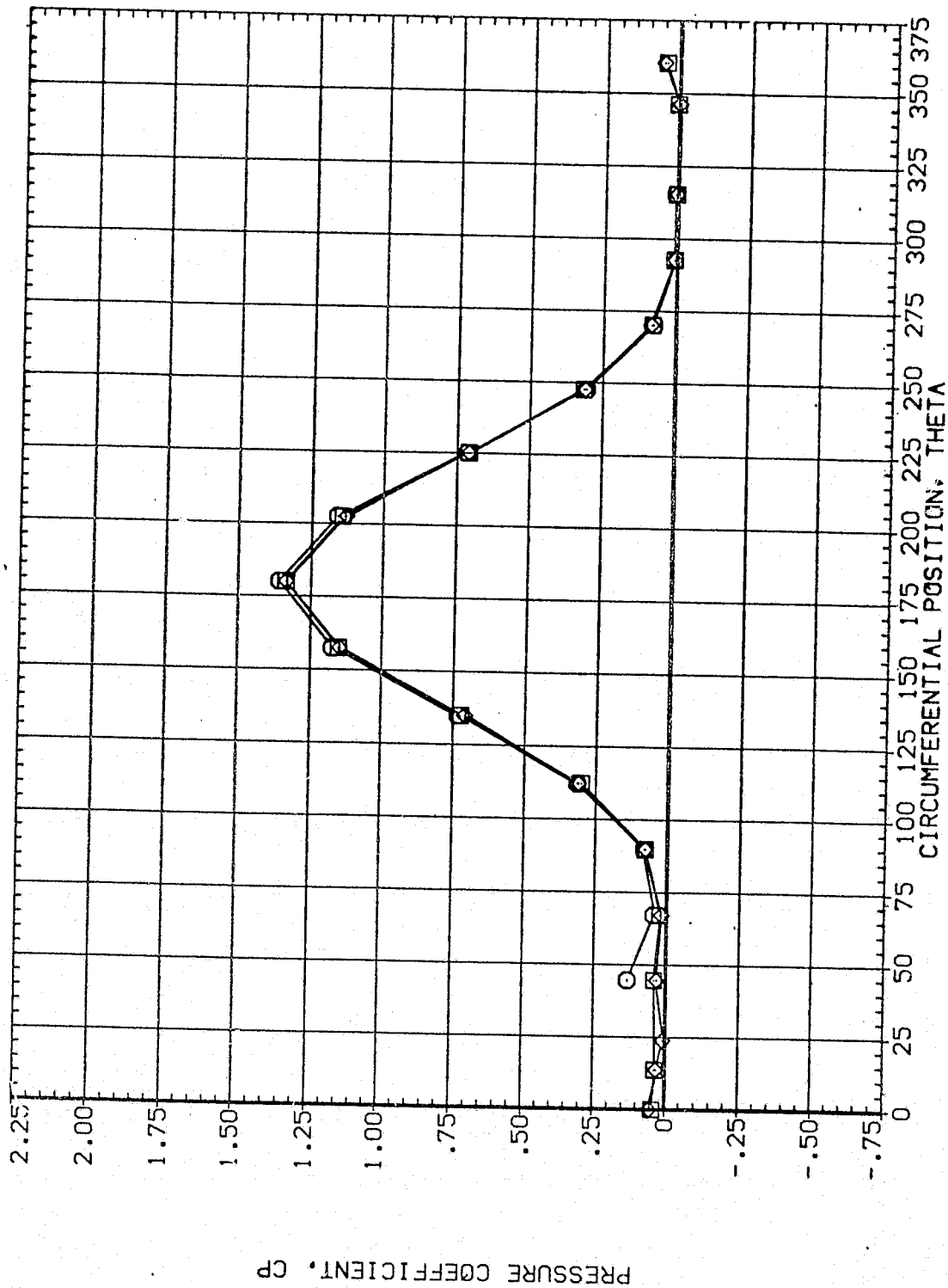


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A064)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
□	.892	60.130	4.960	MMOUNT	PHI	.000
◇	.923					
◇	.954					

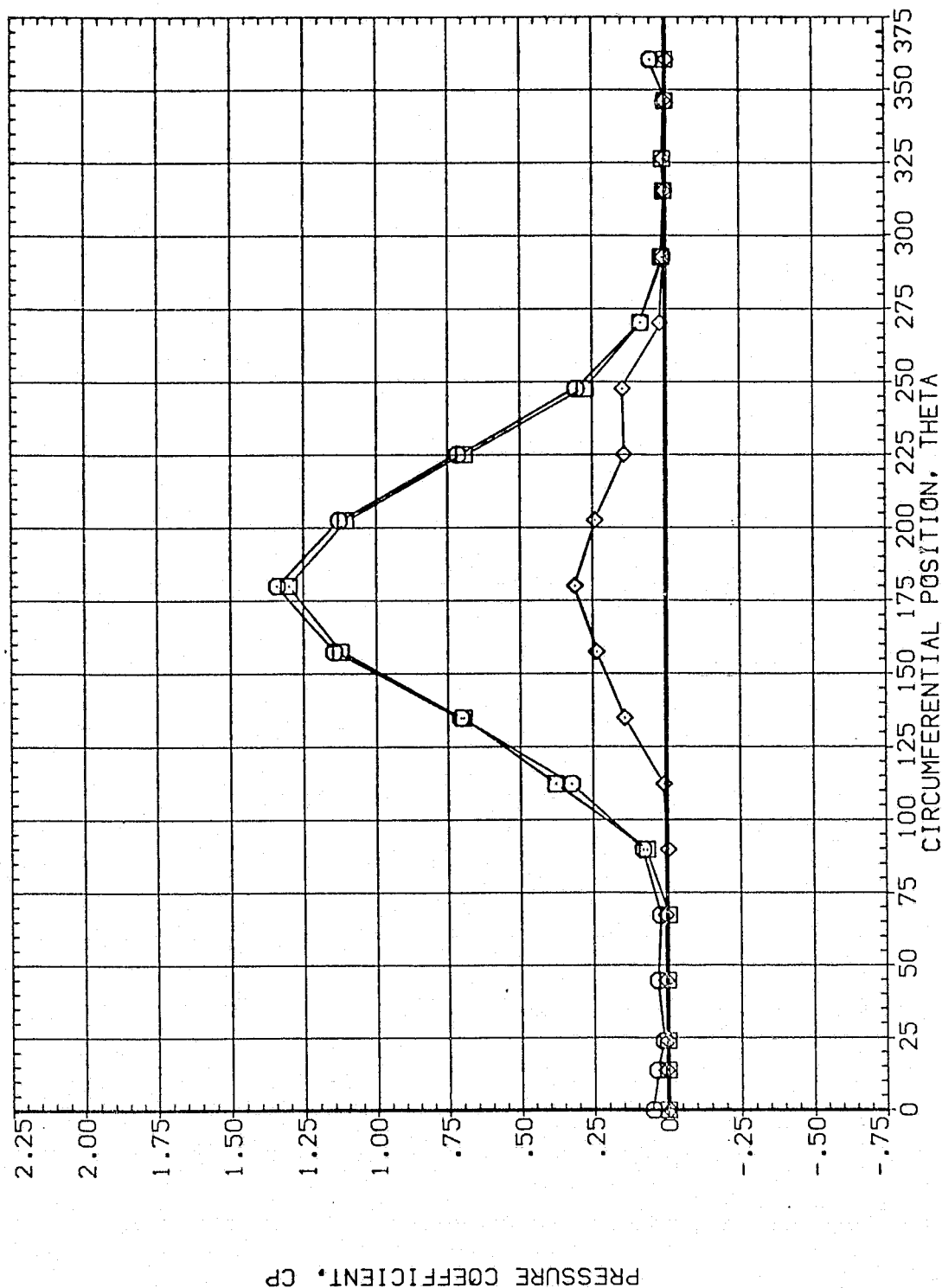


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
◇	.055	63.130	4.960	2.000	.000	.000
□	.108					
○	.162					

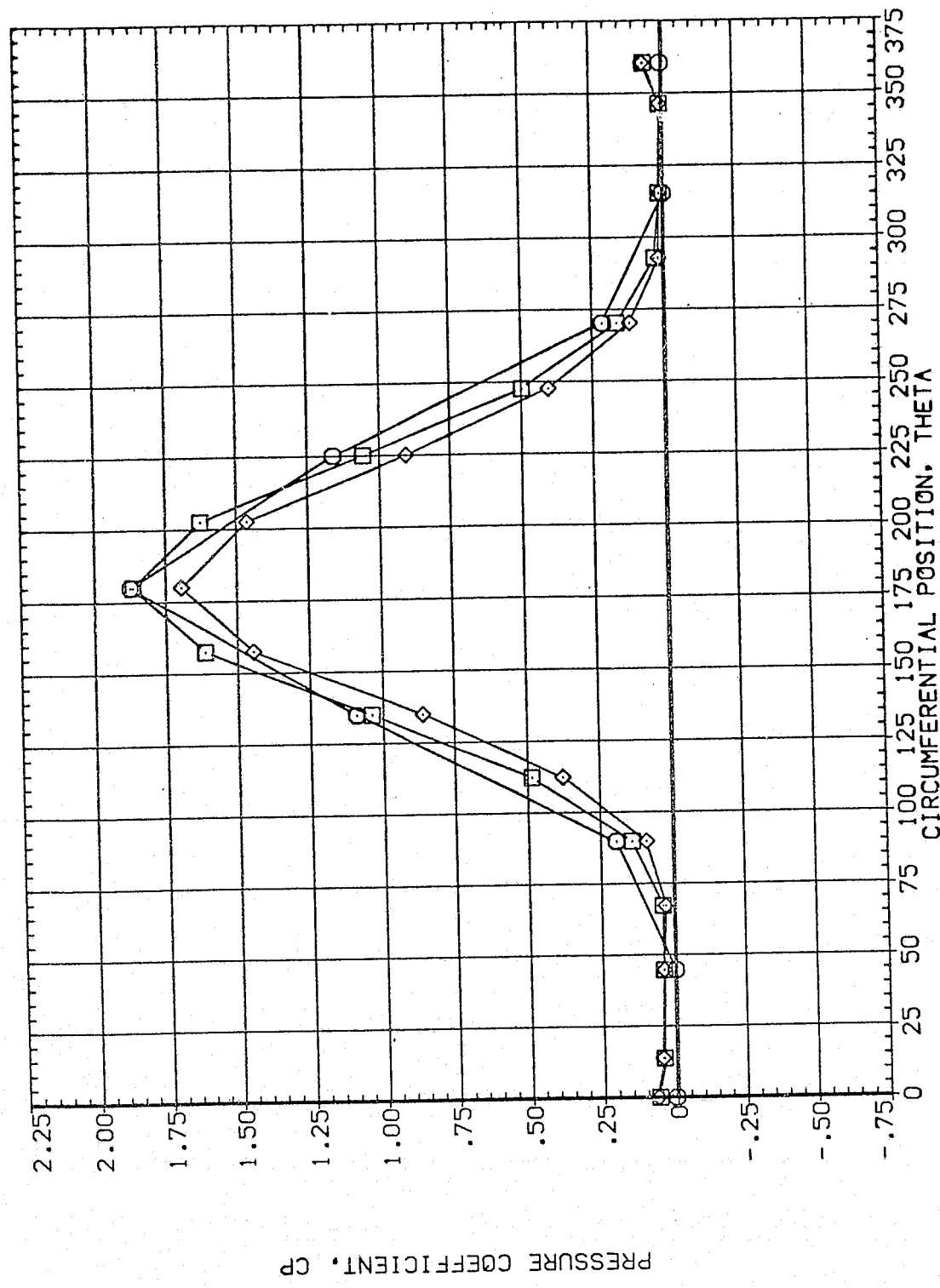


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2617

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.216	63.130	4.960	MOUNT	.000
□	.322			OFFSET	2.000
◇	.518			PHI	60.000

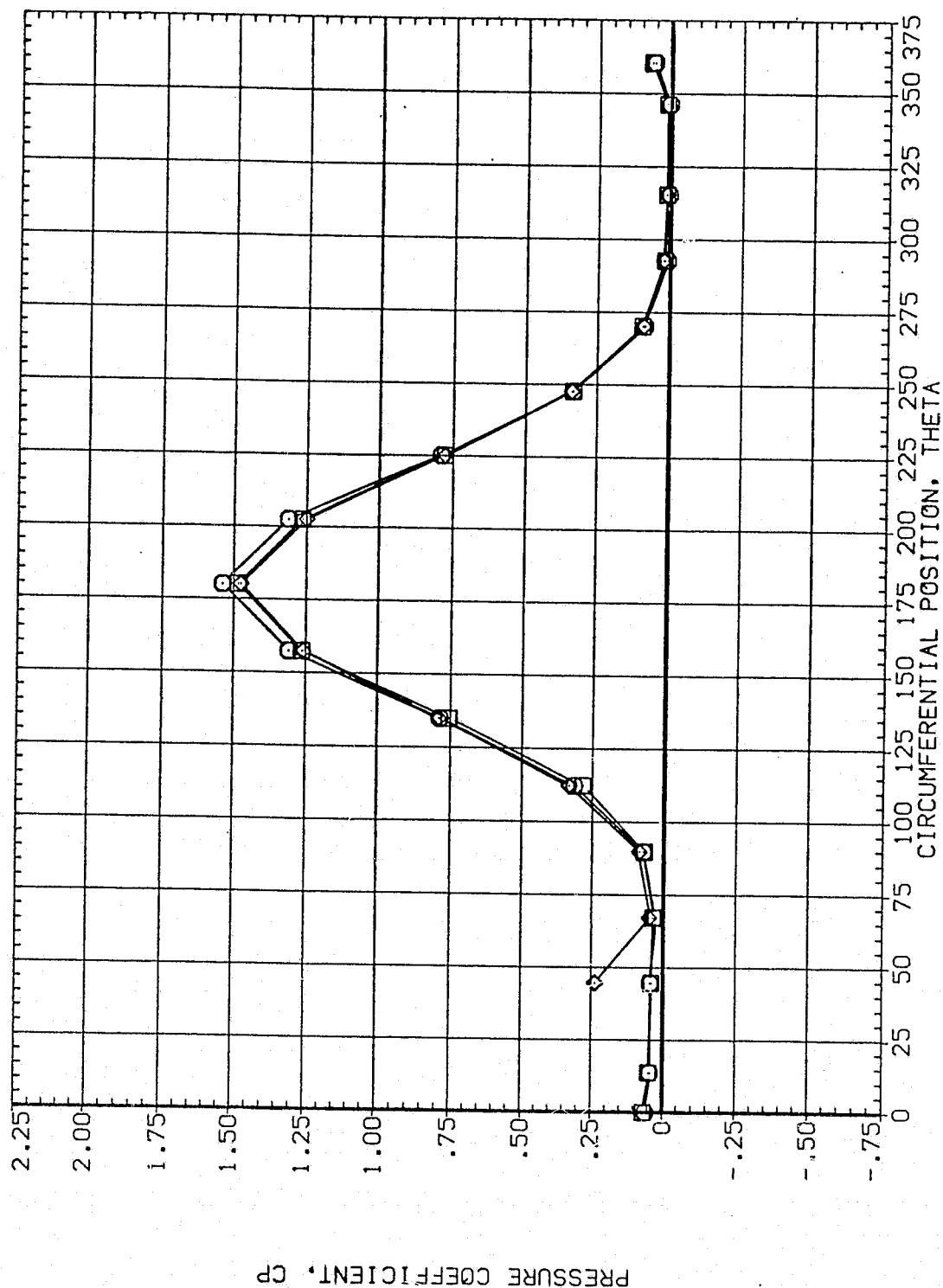


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A065)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	63.130	4.960	MOUNT	.000	60.000
□	.735				2.000	
◇	.860					.000

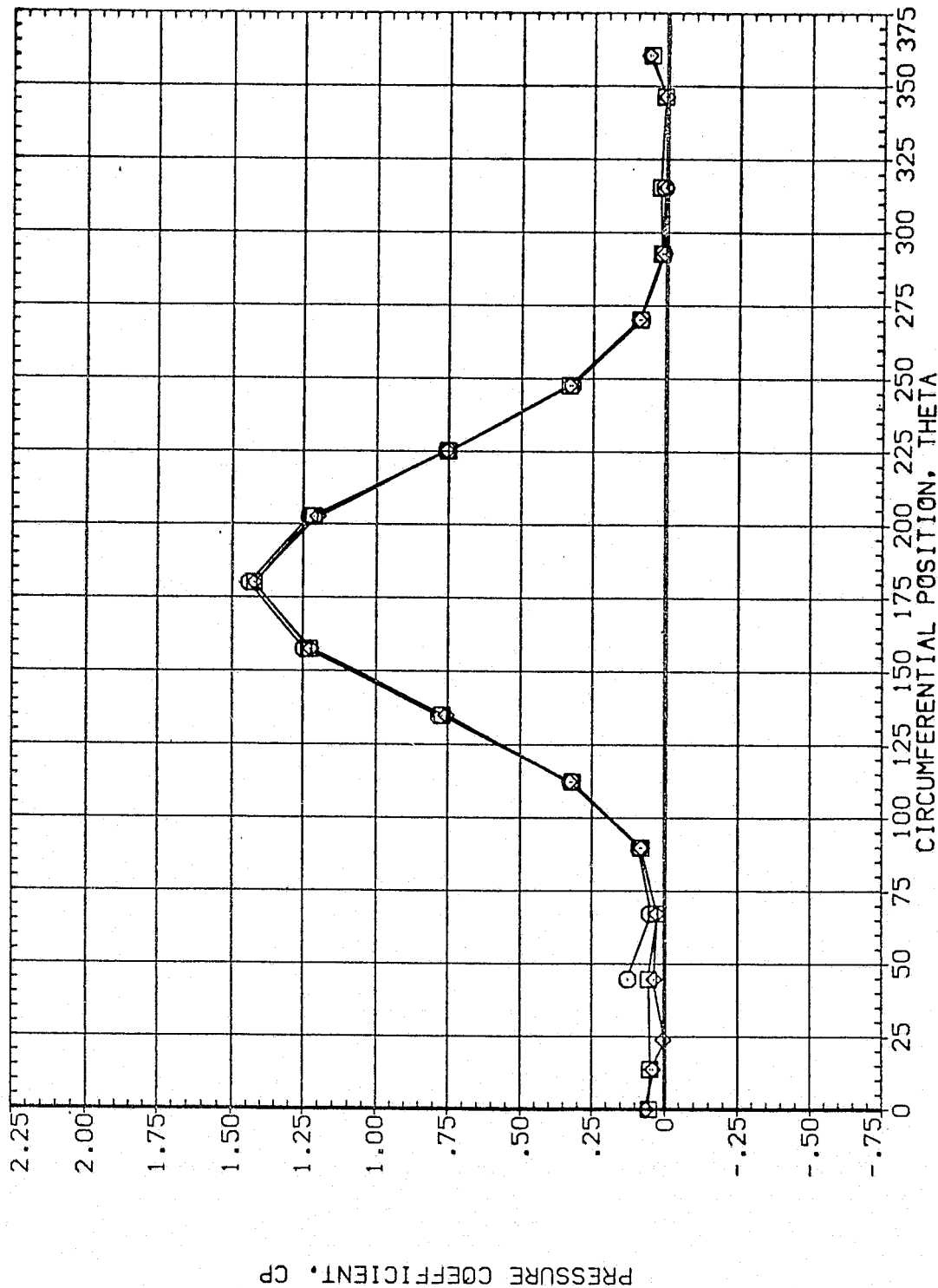


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	63.130	4.960	HOUNT	.000
□	.923			OFFSET	.000
◇	.954			PHI	.000

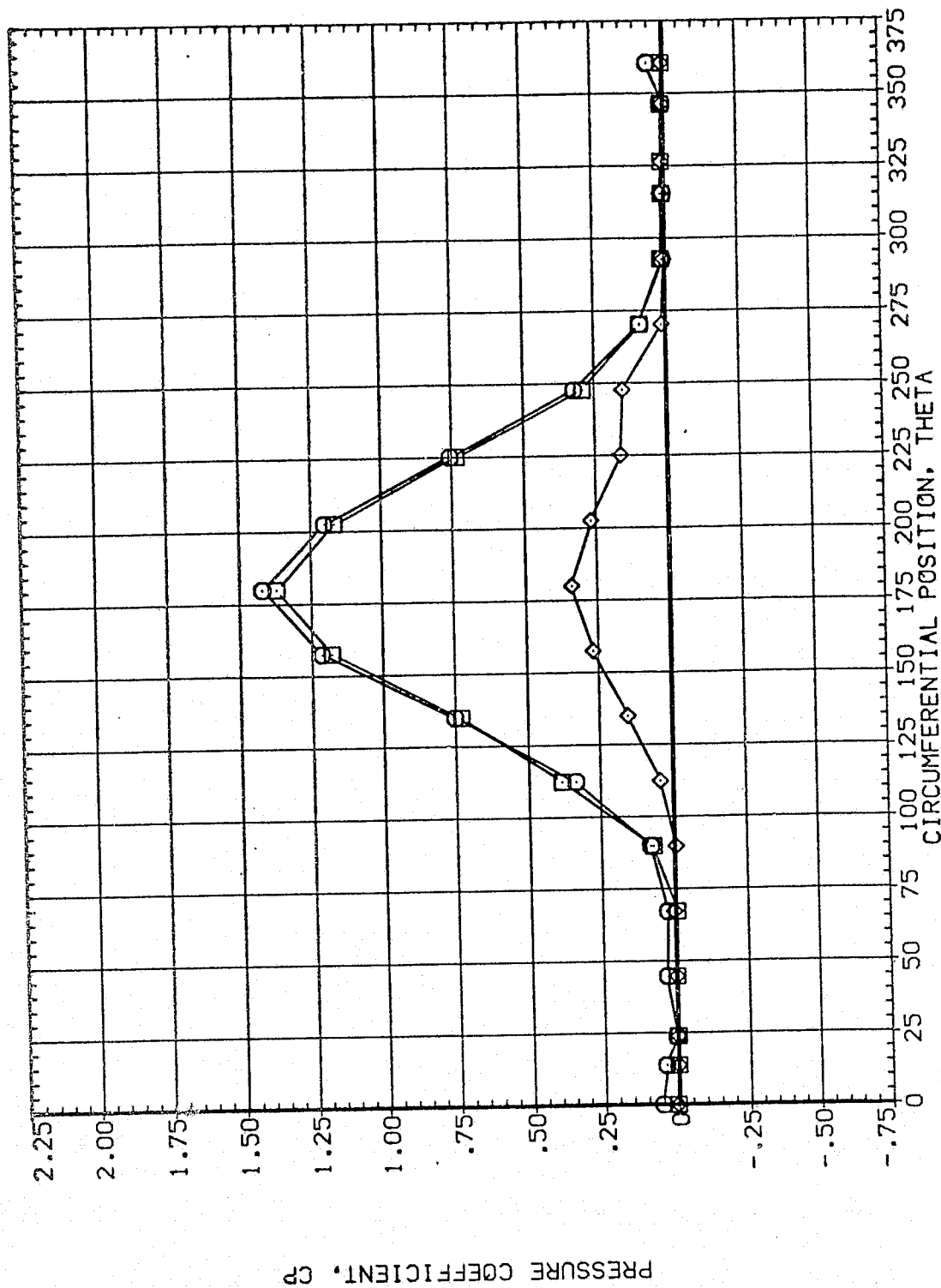


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

CP1A066]

SYMBOL

### PARAMETRIC VALUES

135370

000.

**BETA**

1ACH

ALPHA

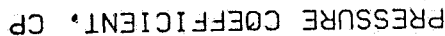
87/

4.950

66-130

**.055**

70845



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PARAMETRIC VALUES  
 BETA .000  
 HOUNT 2.000  
 OFFSET PHI .000

SYMBOL X/LB ALPHA MACH  
 O .215 66.130 4.960  
 □ .322  
 ◇ .518

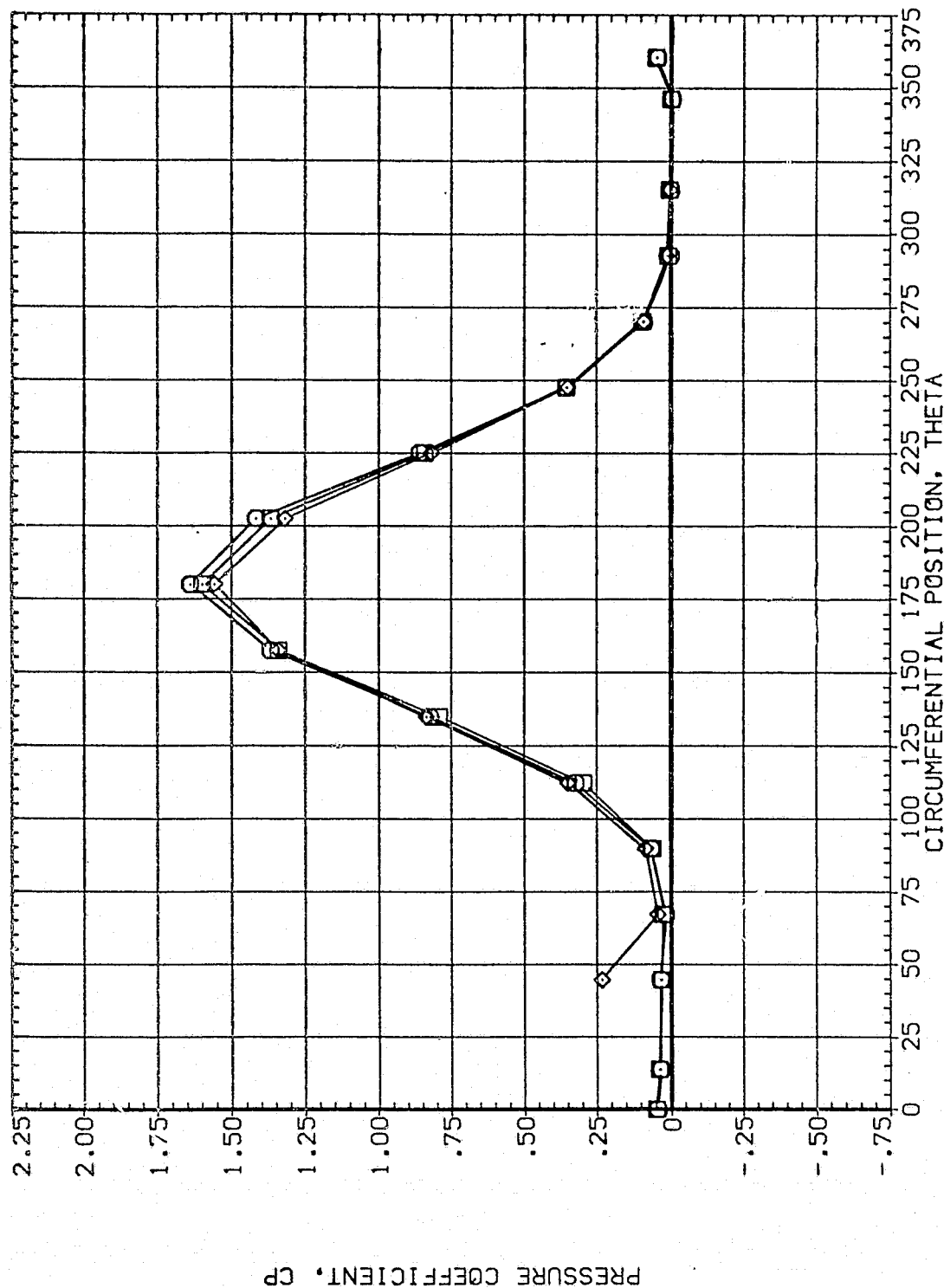


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A066)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
◇	.610	66.130	4.960	HOUNT	.000	2.000
□	.735					
◇	.860					

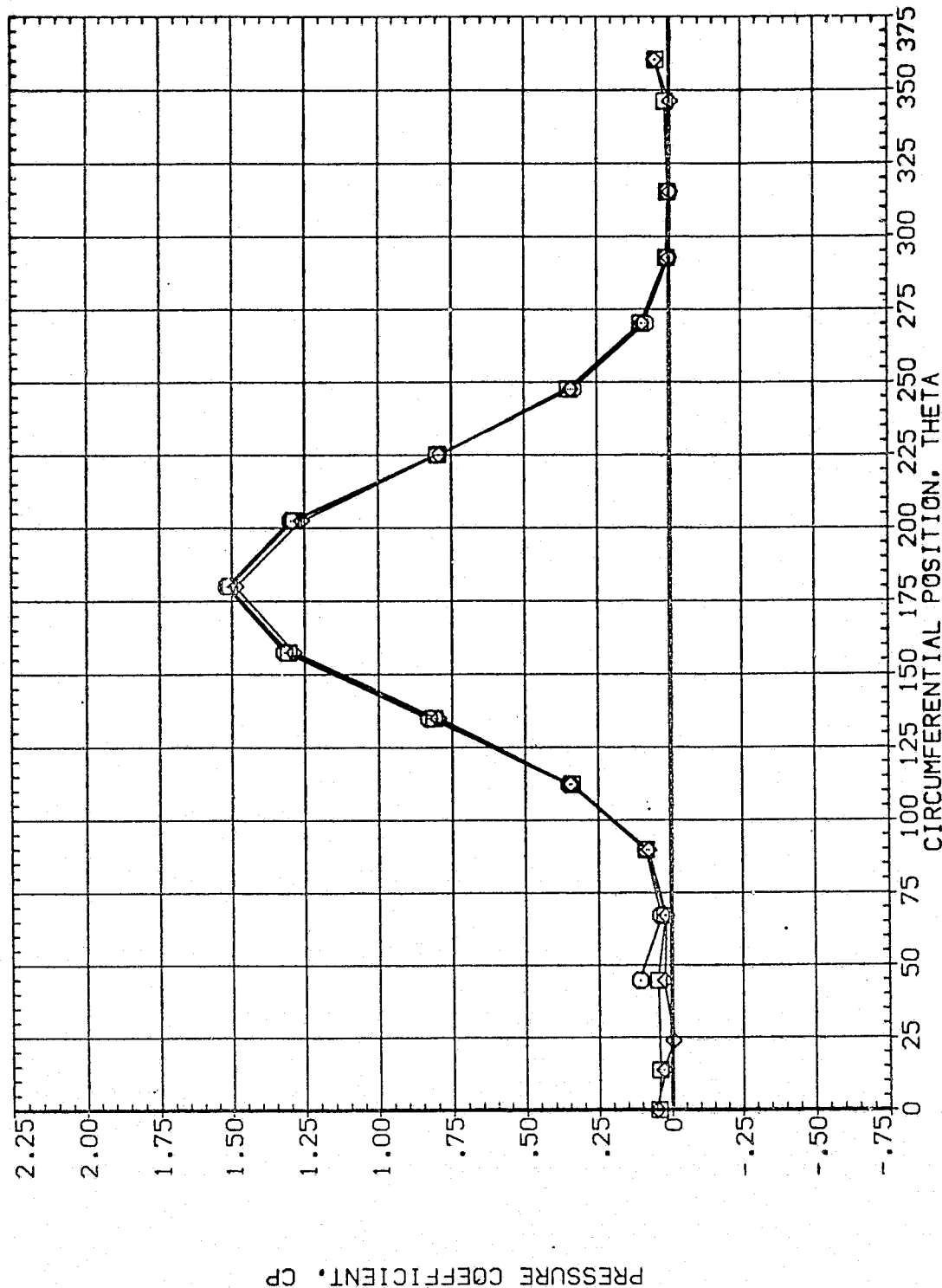


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

(P1A066)

SYMBOL  
□  
◇

X/LB  
.892  
.923  
.954

ALPHA  
66.130

HACH  
4.960

BETA  
MOUNT

PARAMETRIC VALUES  
.000 CFFSET  
2.000 PHI

60.000  
.000

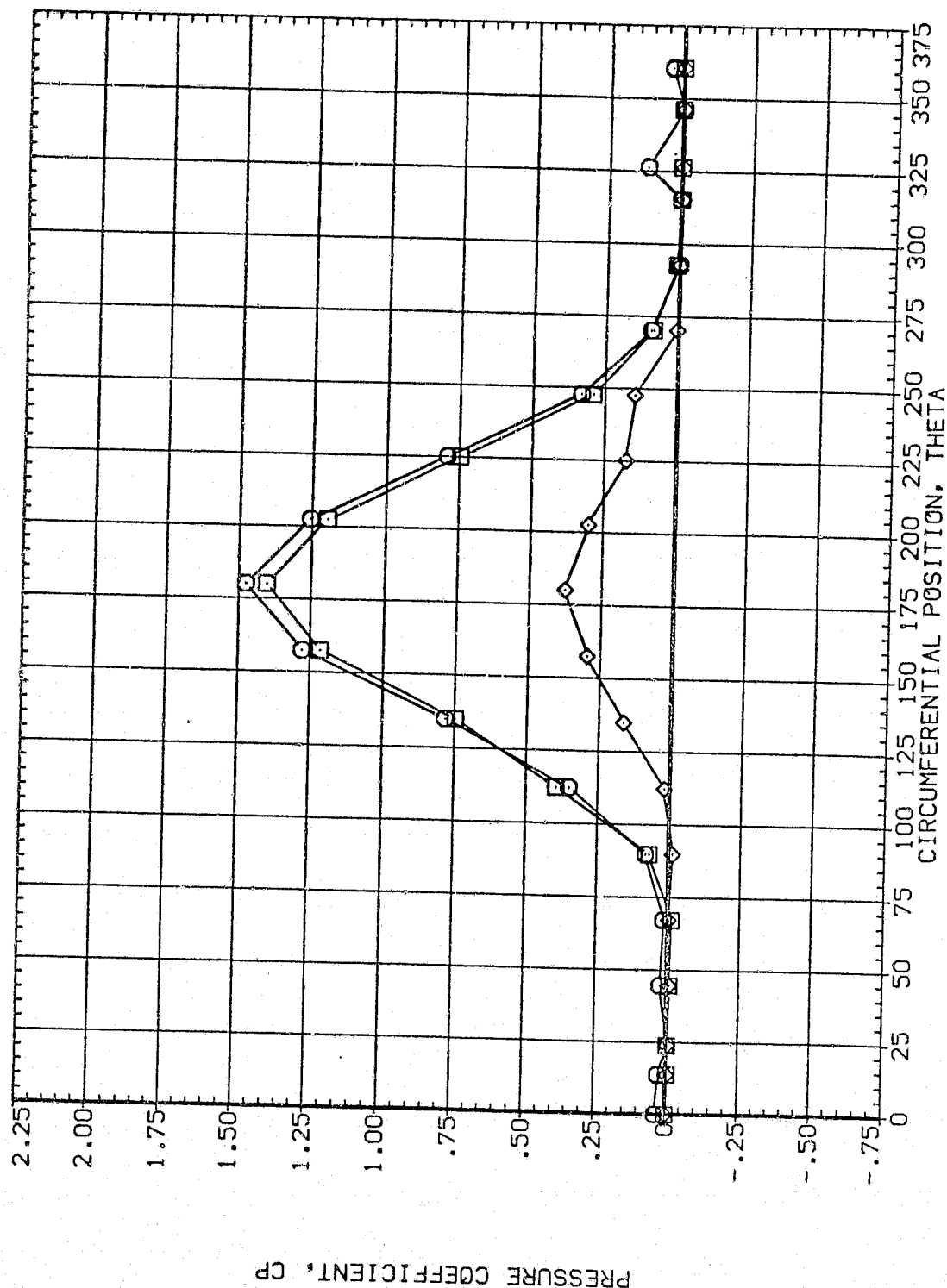


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL  
 □  
 ○  
 ◇

X/LB .055  
 .108  
 .162

ALPHA 69.130  
 MACH 4.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 OFFSET  
 2.000 PHI  
 60.000  
 .000

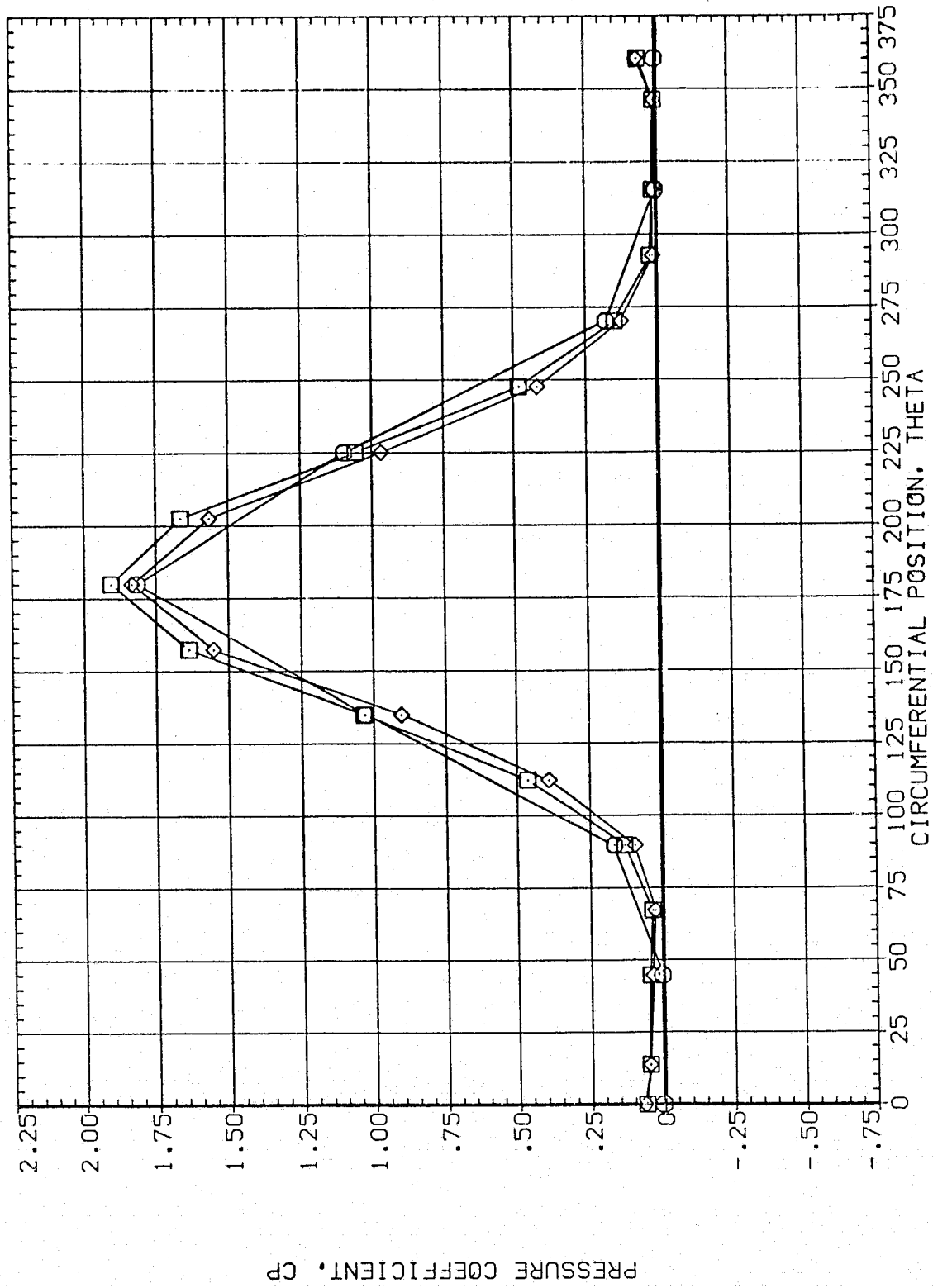


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	60.000
				MOUNT	2.000	PHI

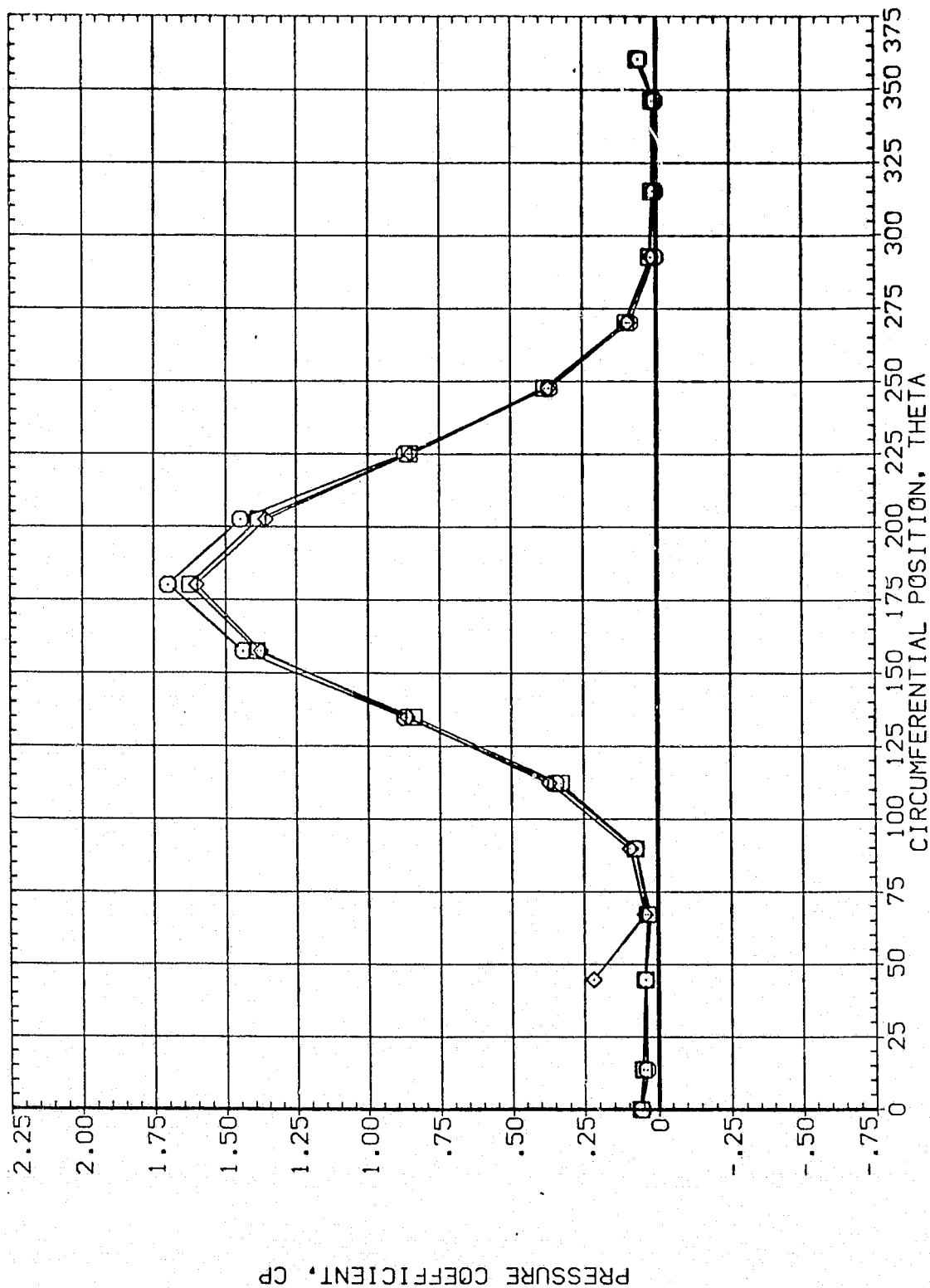


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A067)

SYMBOL X/LB ALPHA MACH  
 □ .610 69.130 4.960  
 ◇ .735  
 ◇ .860

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 60.000  
 .000

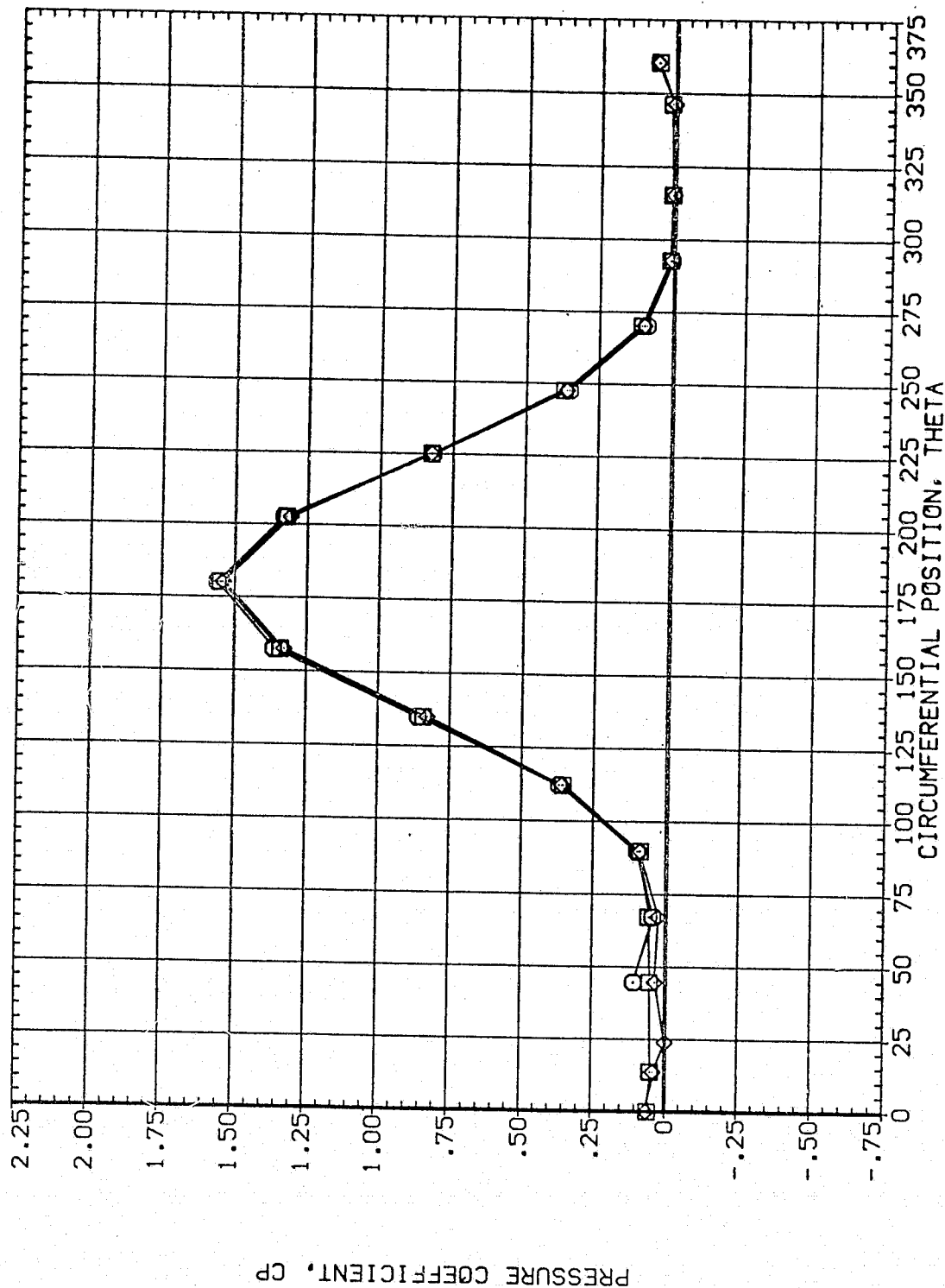


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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SYMBOL X/LB ALPHA MACH  
 ○ .892  
 □ .923  
 ◇ .954

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI .000

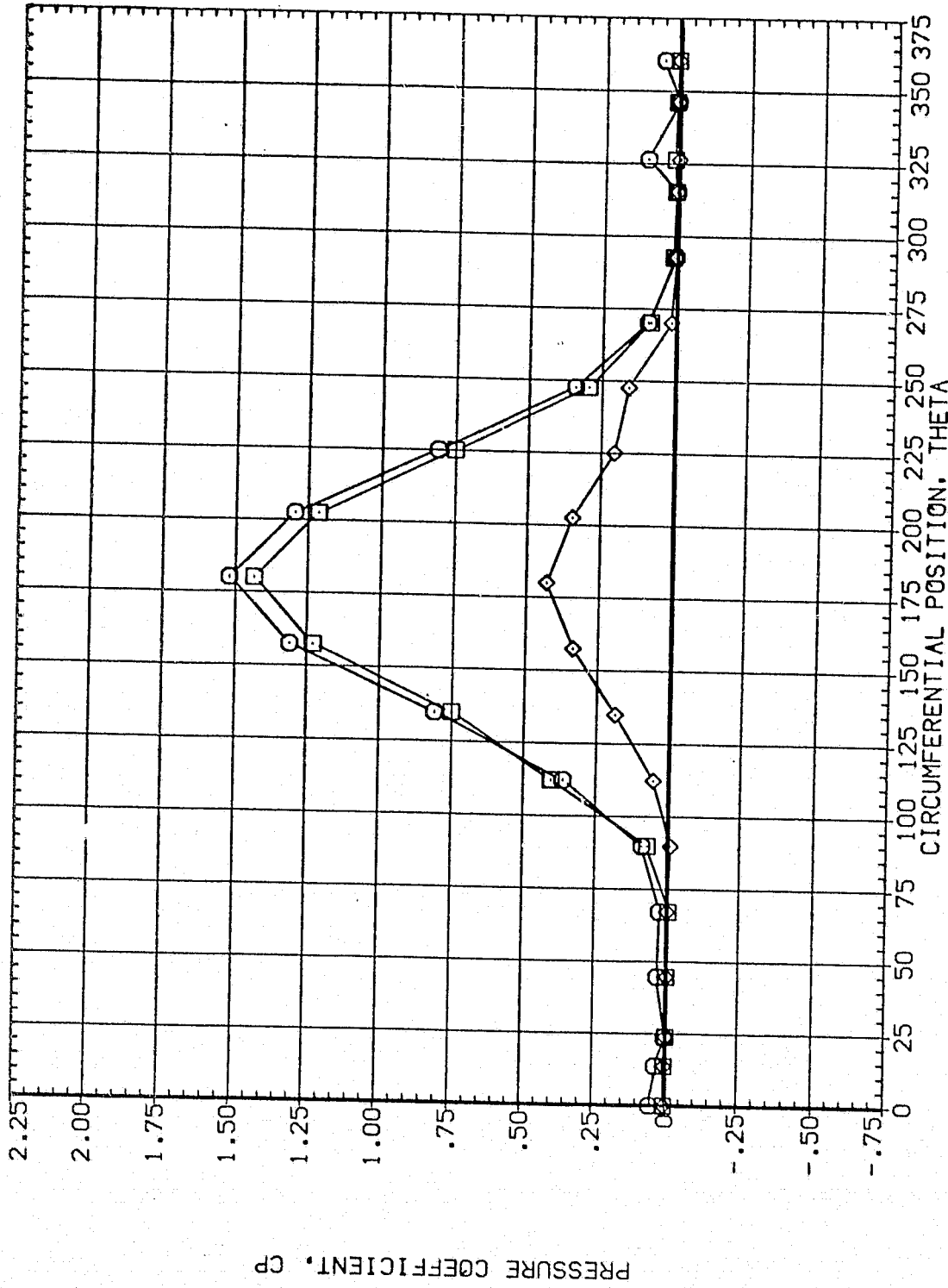


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.055	69.980	4.960	HUNT	.000	80.000
◇	.108				2.000	
◇	.162					.000

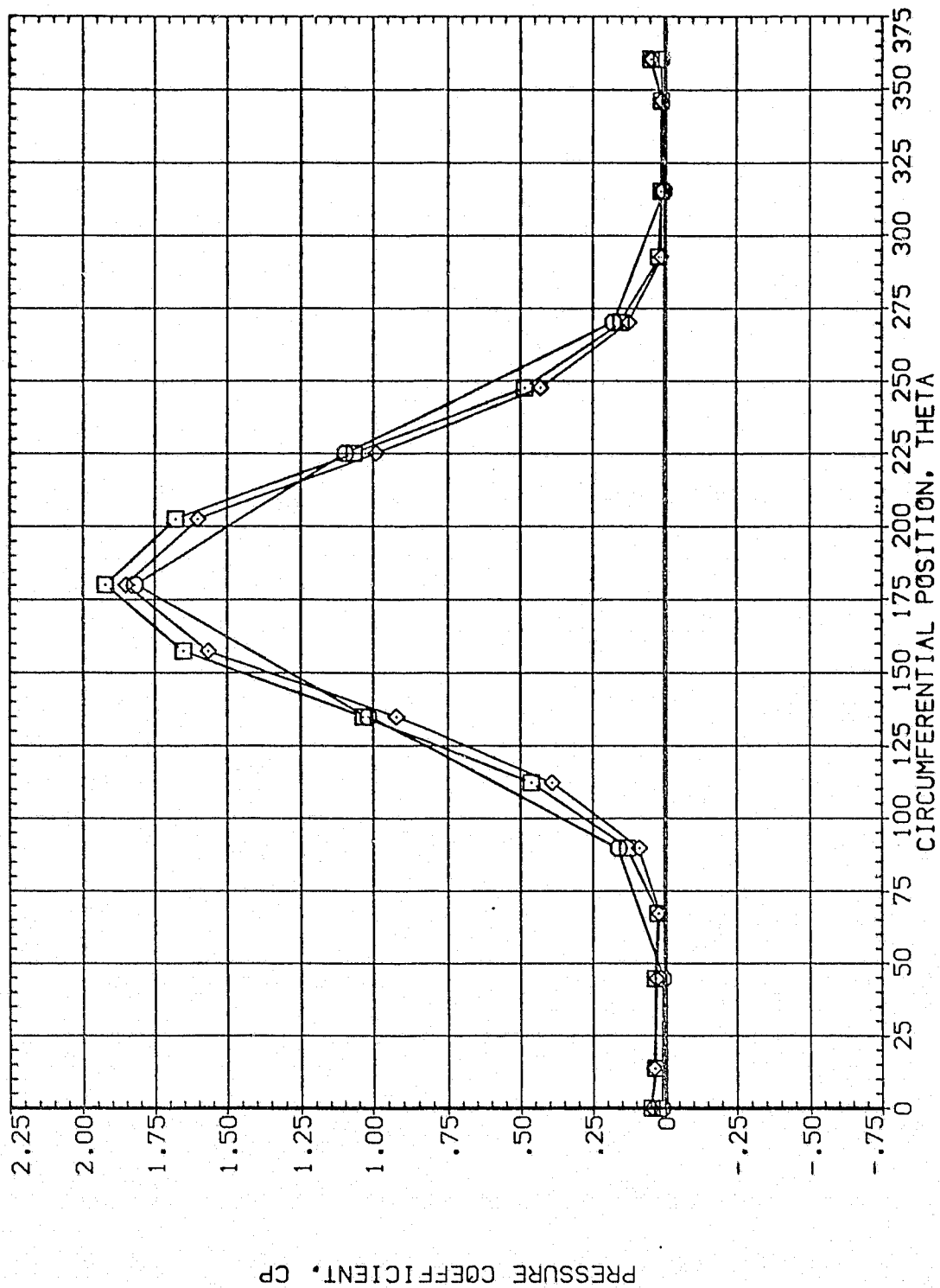


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL X/LB ALPHA MACH  
 □ .216 69.980 4.960  
 ◇ .322 .518

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 PHI 80.000  
 .000

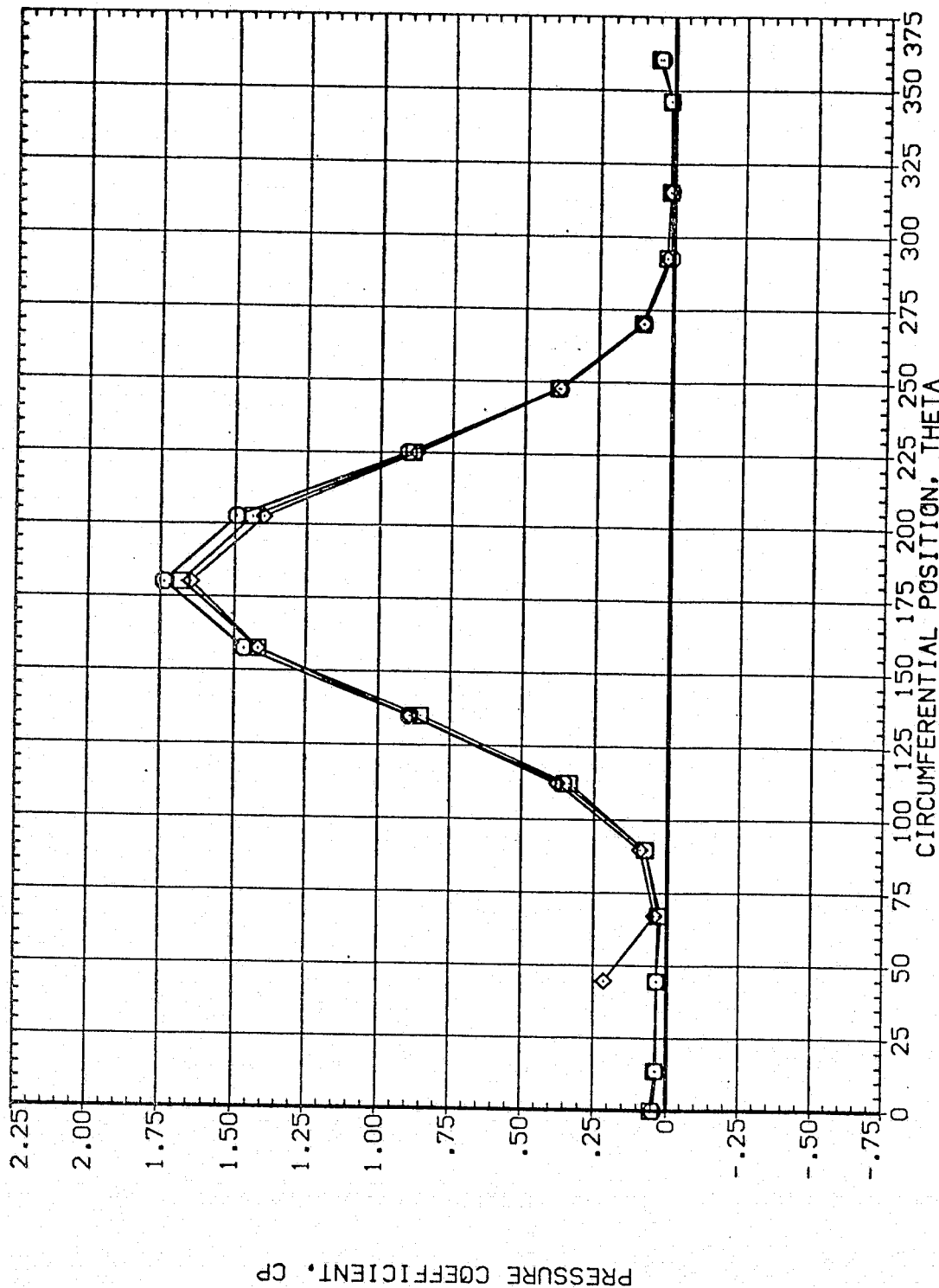


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A068)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	69.980	4.960	MOUNT	.000	80.000
□	.735				2.000	
◇	.860					.000

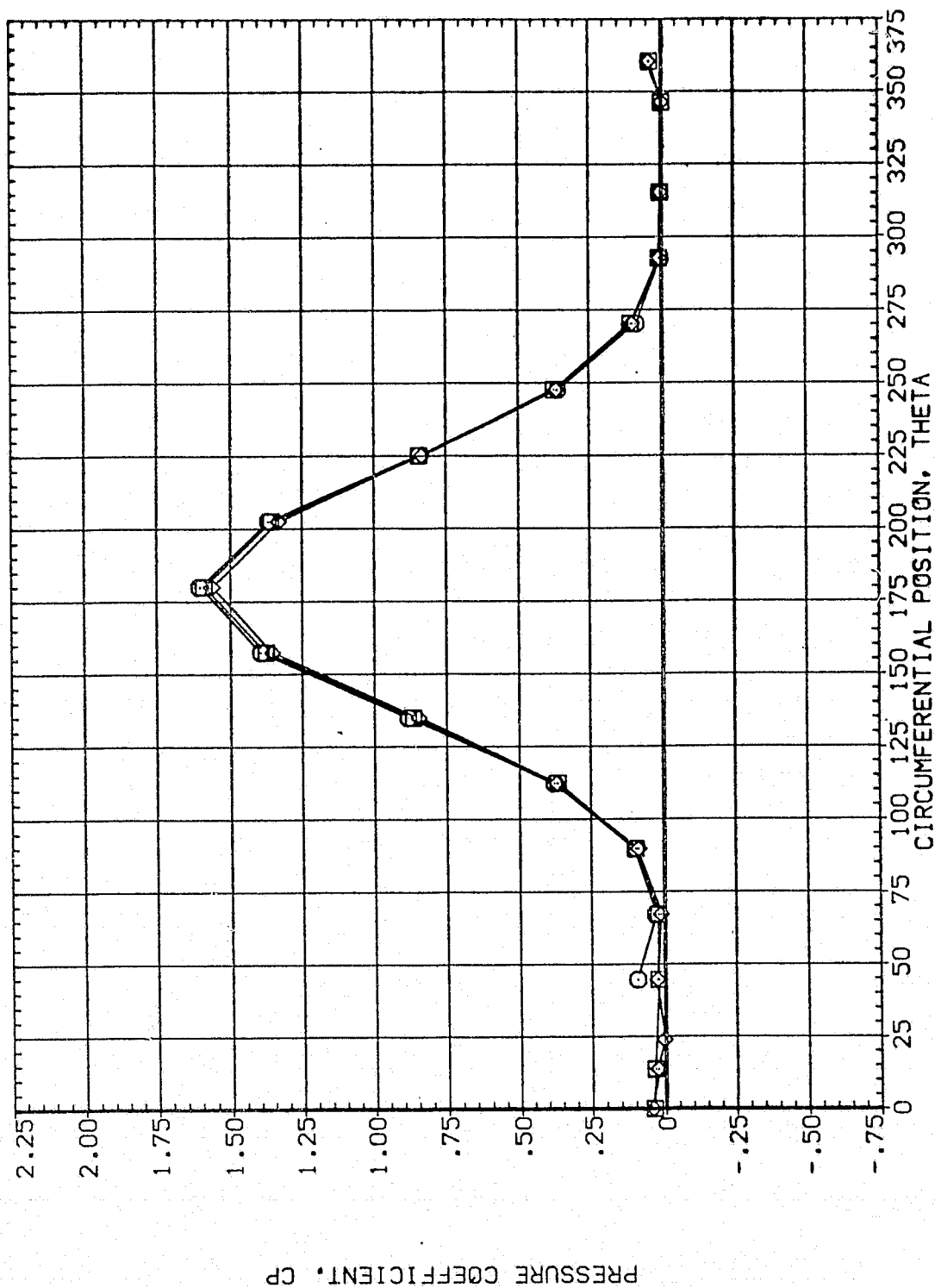


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	69.980	4.960	MCOUNT	.000 OFFSET
□	.923				2.000 PHI
◇	.954				.000

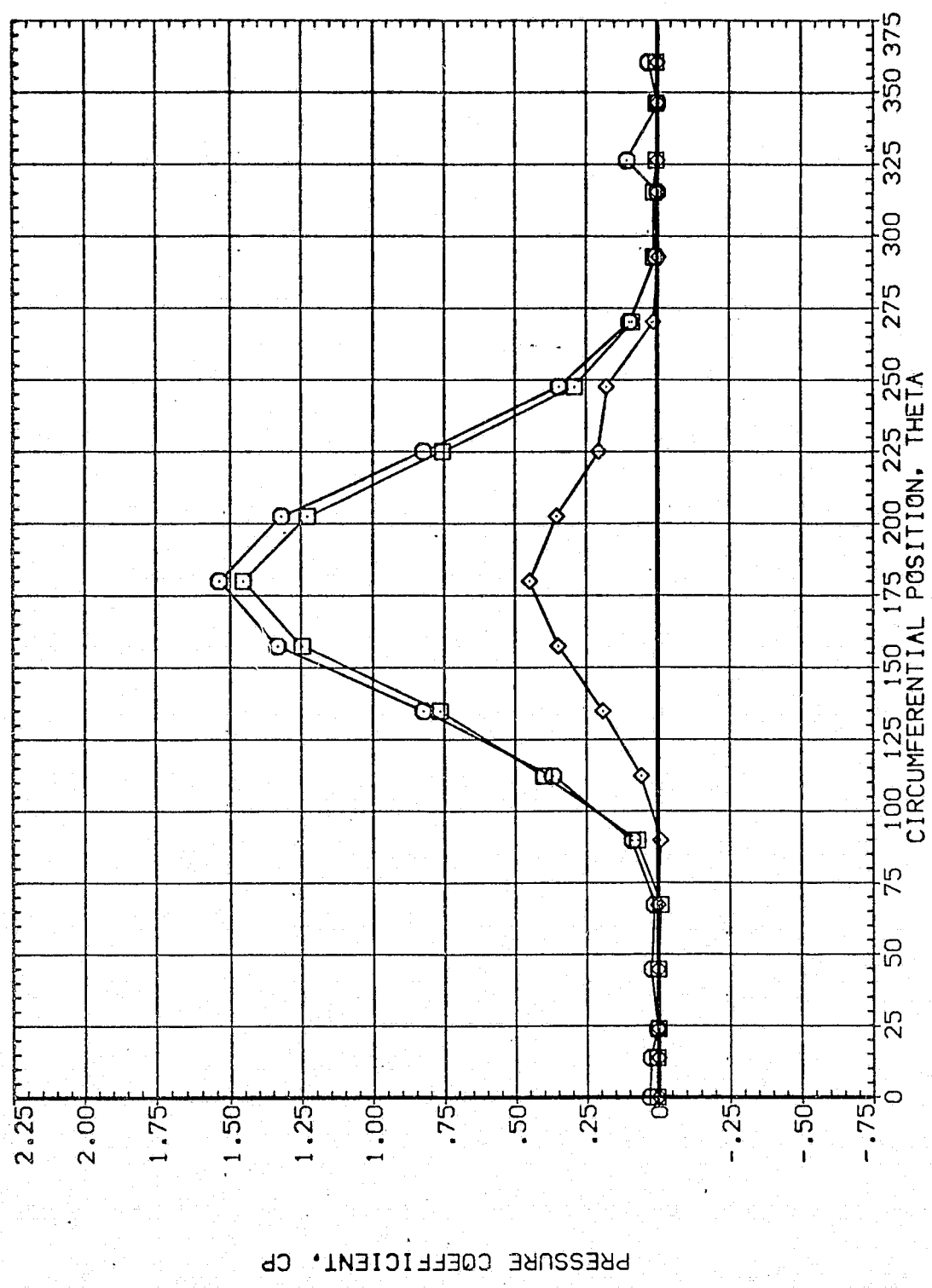


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (PIA069)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	71.880	4.960	MOUNT	.000	80.000
□	.108				2.000	.000
◇	.162					

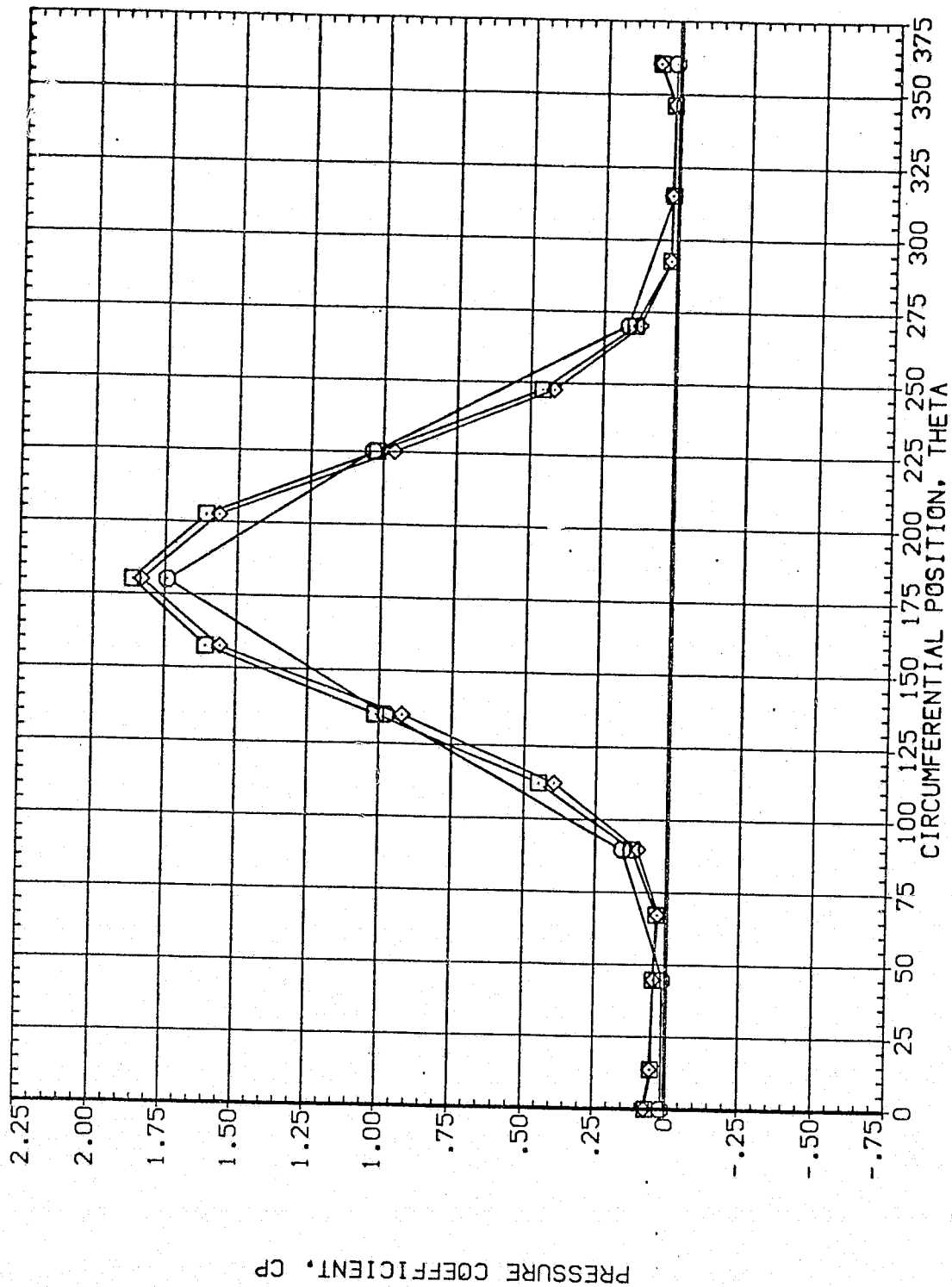


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	.216	71.860	4.960	MOUNT	.000 OFFSET 80.000
◇	.322				2.000 PHI .000
◇	.518				

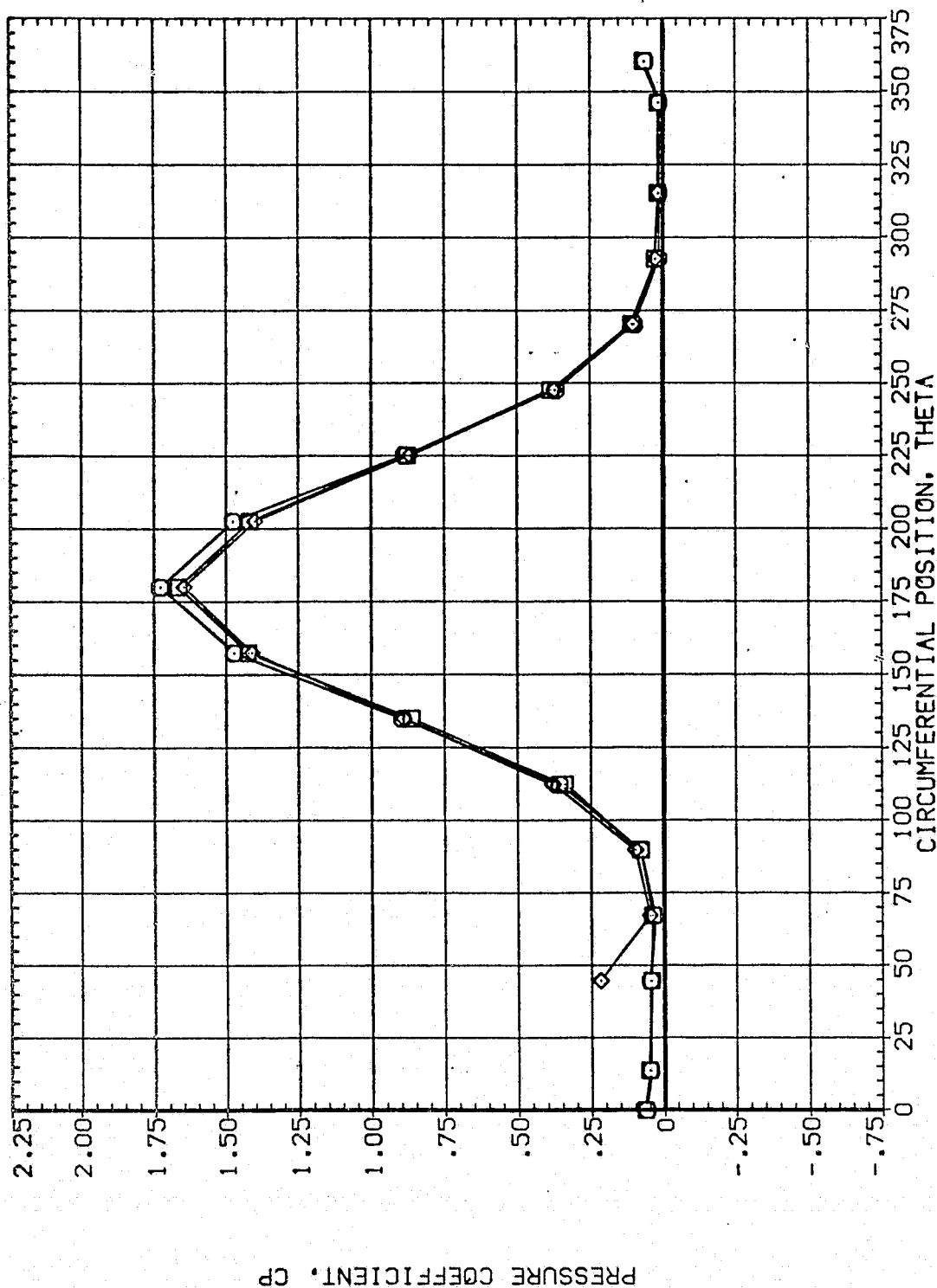


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A069)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	80.000
○	.610	71.880	4.960	2.000	PHI	.000
□	.735					
◇	.860					

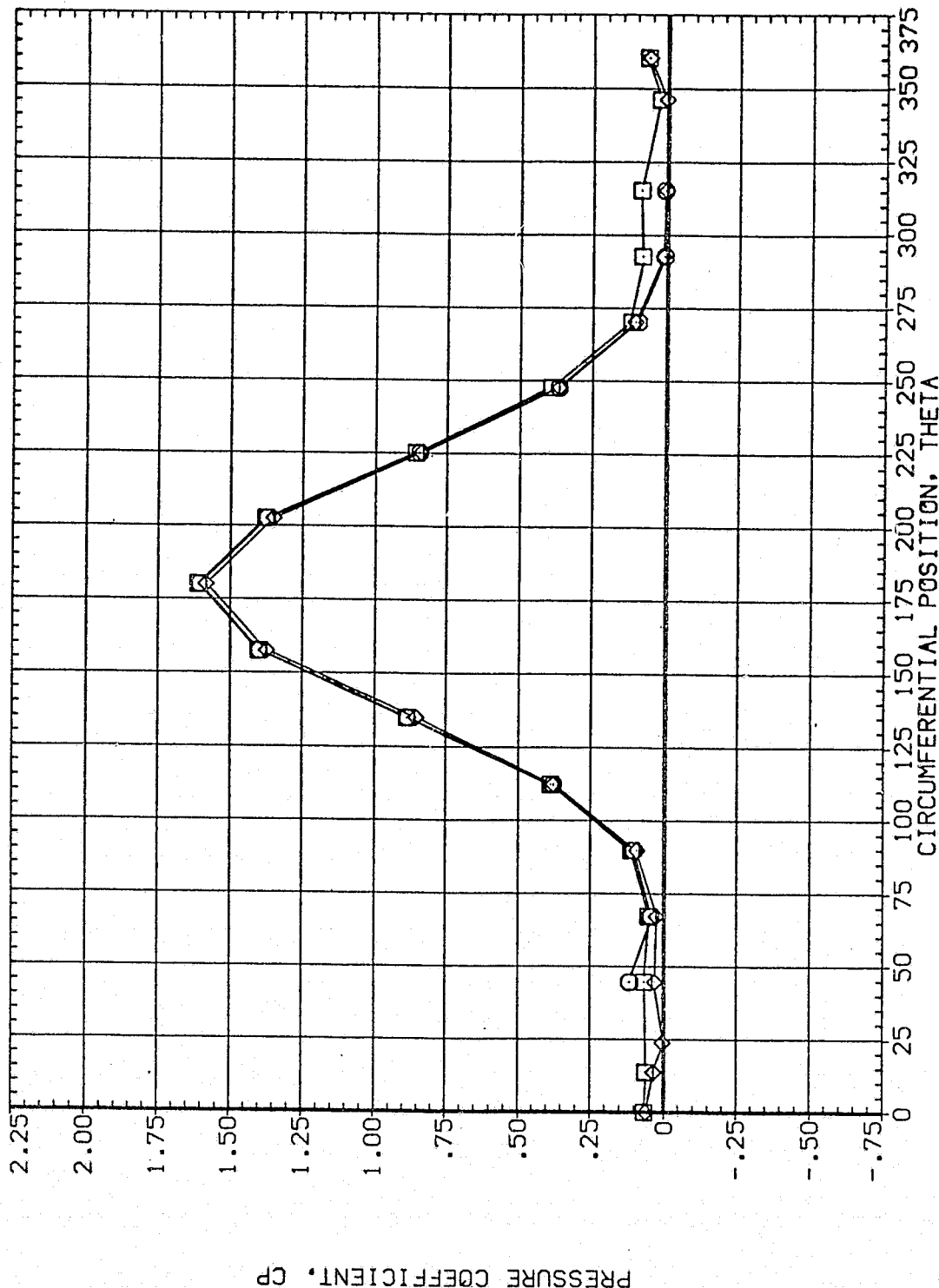


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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(P1A069)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
PHI .000

MACH 4.960

ALPHA 71.880

X/LB .892

SYMBOL  
○  
□  
◇

○  
□  
◇

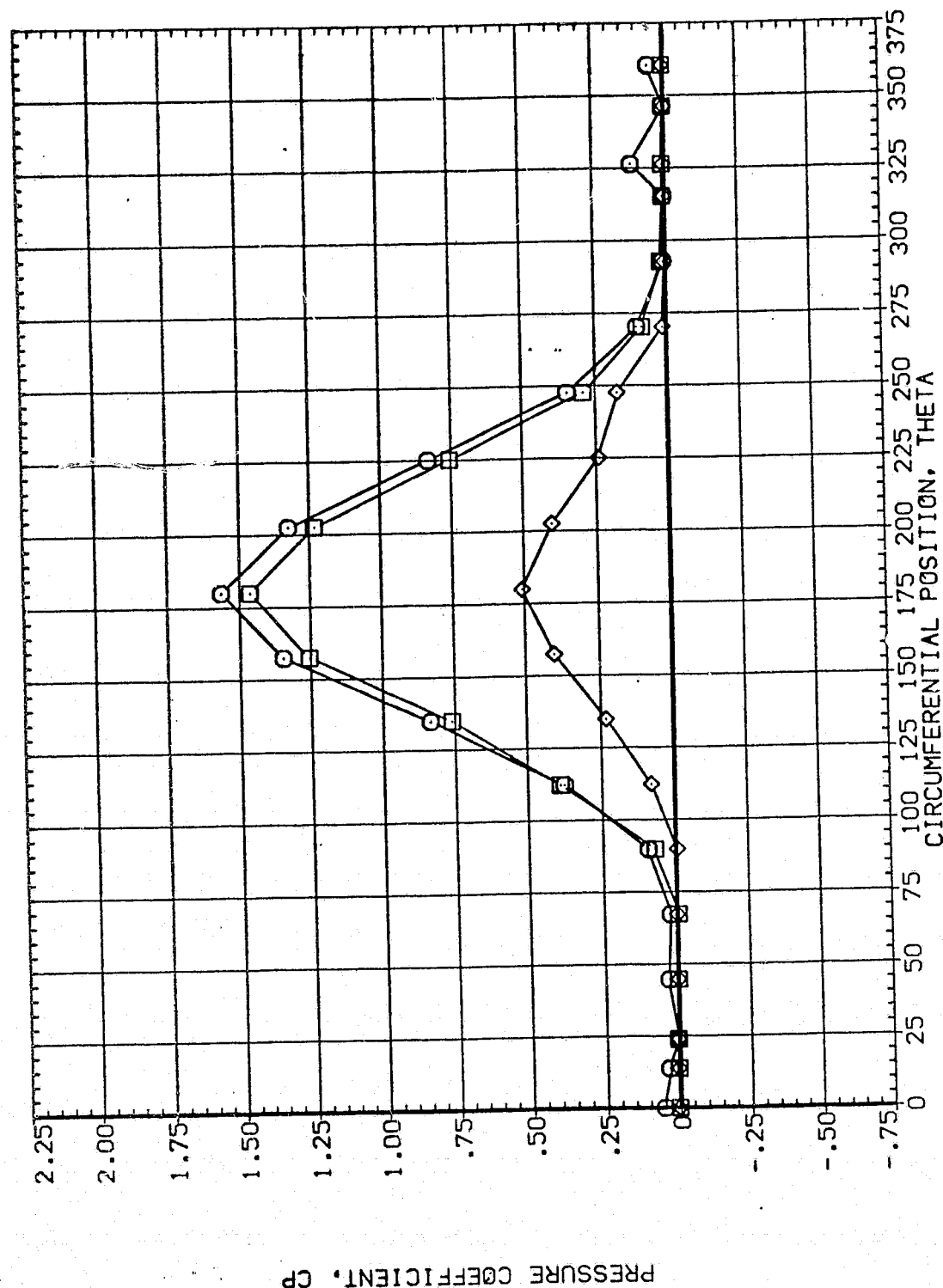


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2636

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	80.000
□	.055	74.860	4.960	MOUNT	2.000	PHI
◇	.108					.000
◇	.162					

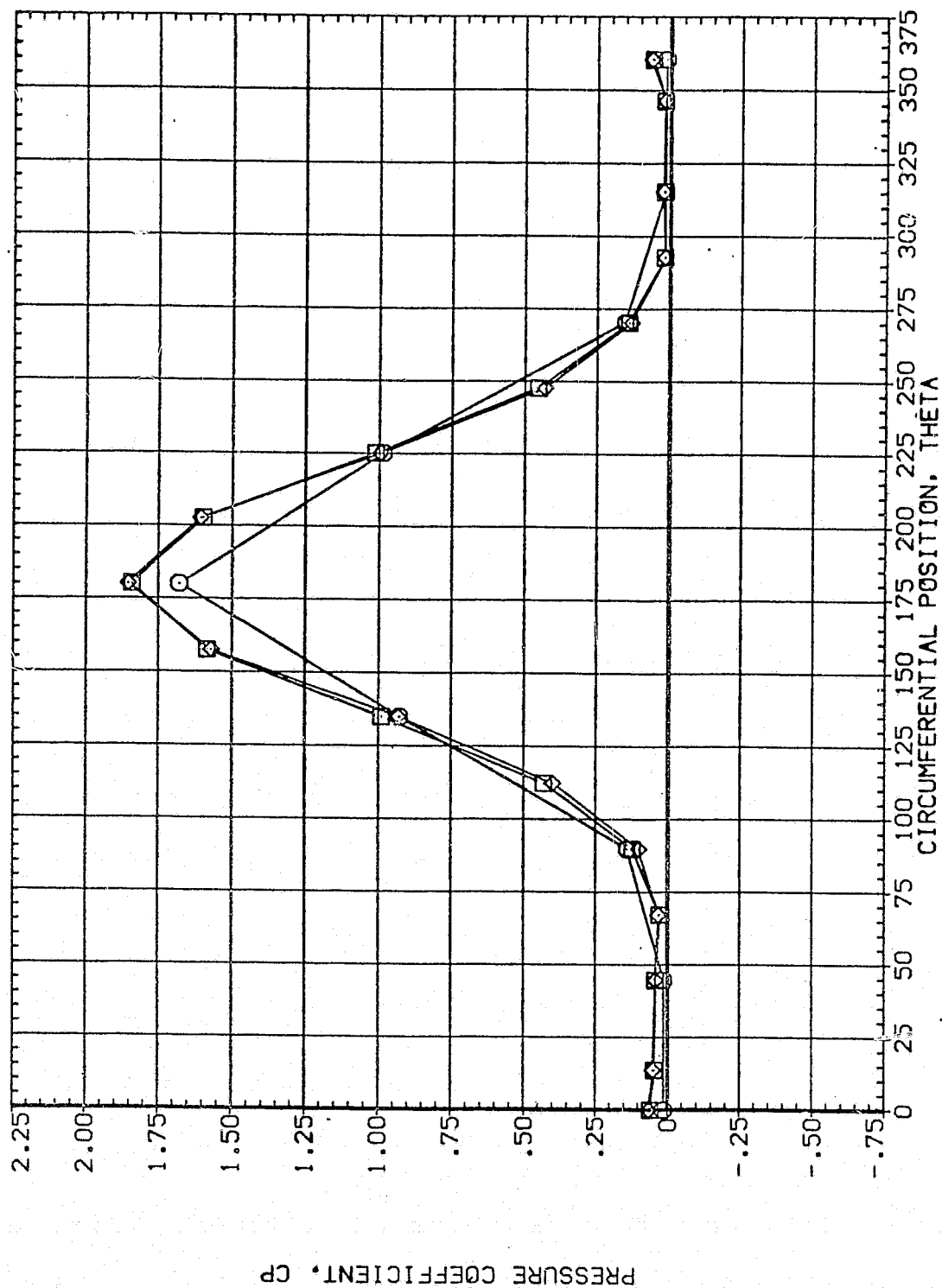


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	.216	74.860	4.950	MOUNT	.000 OFFSET
◇	.322				2.000 PHI
◇	.518				60.000

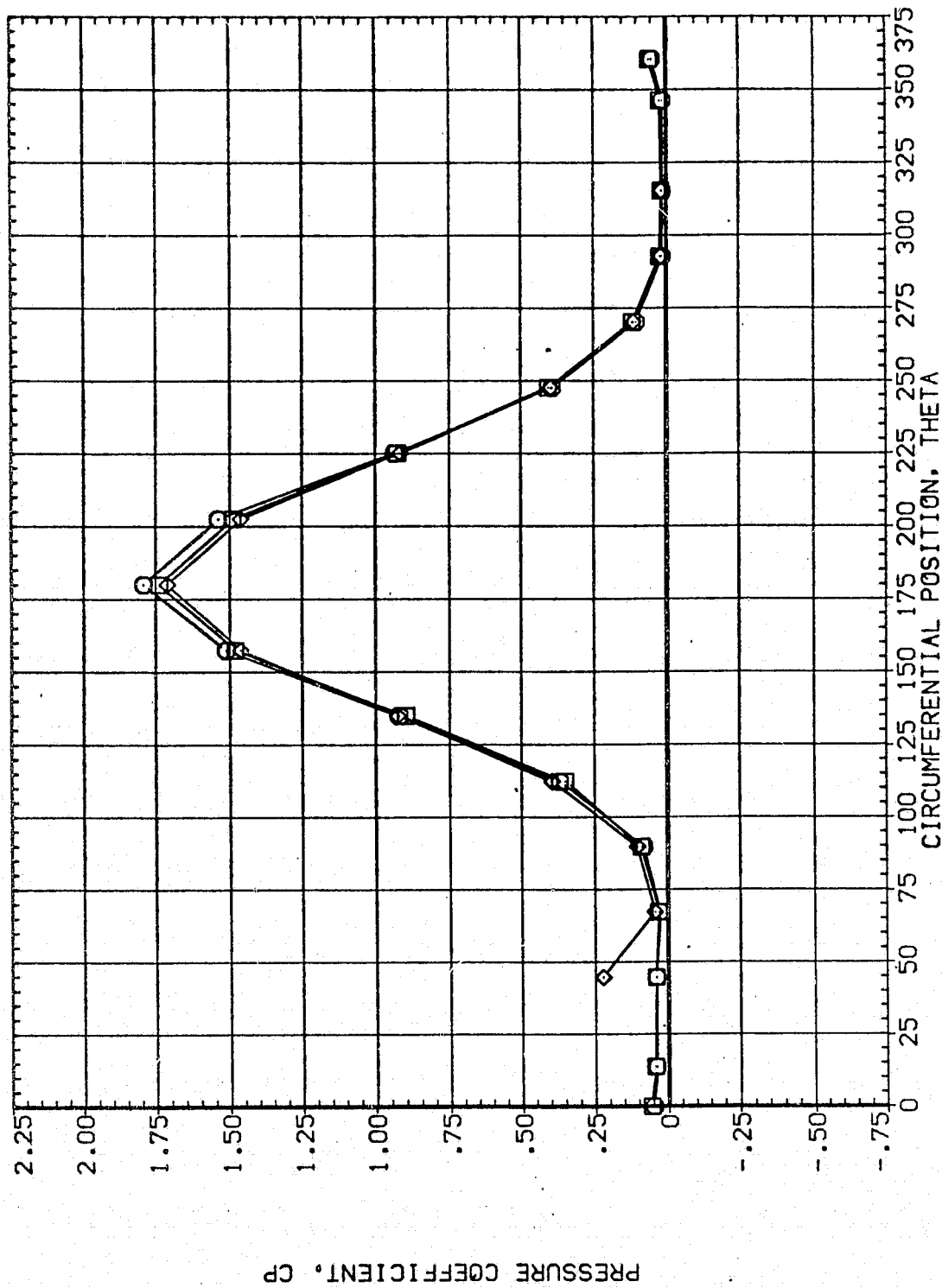


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A070)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	80.000
□	.610	74.860	4.960	MOUNT	2.000	PHI
◇	.735					.000
◇	.860					

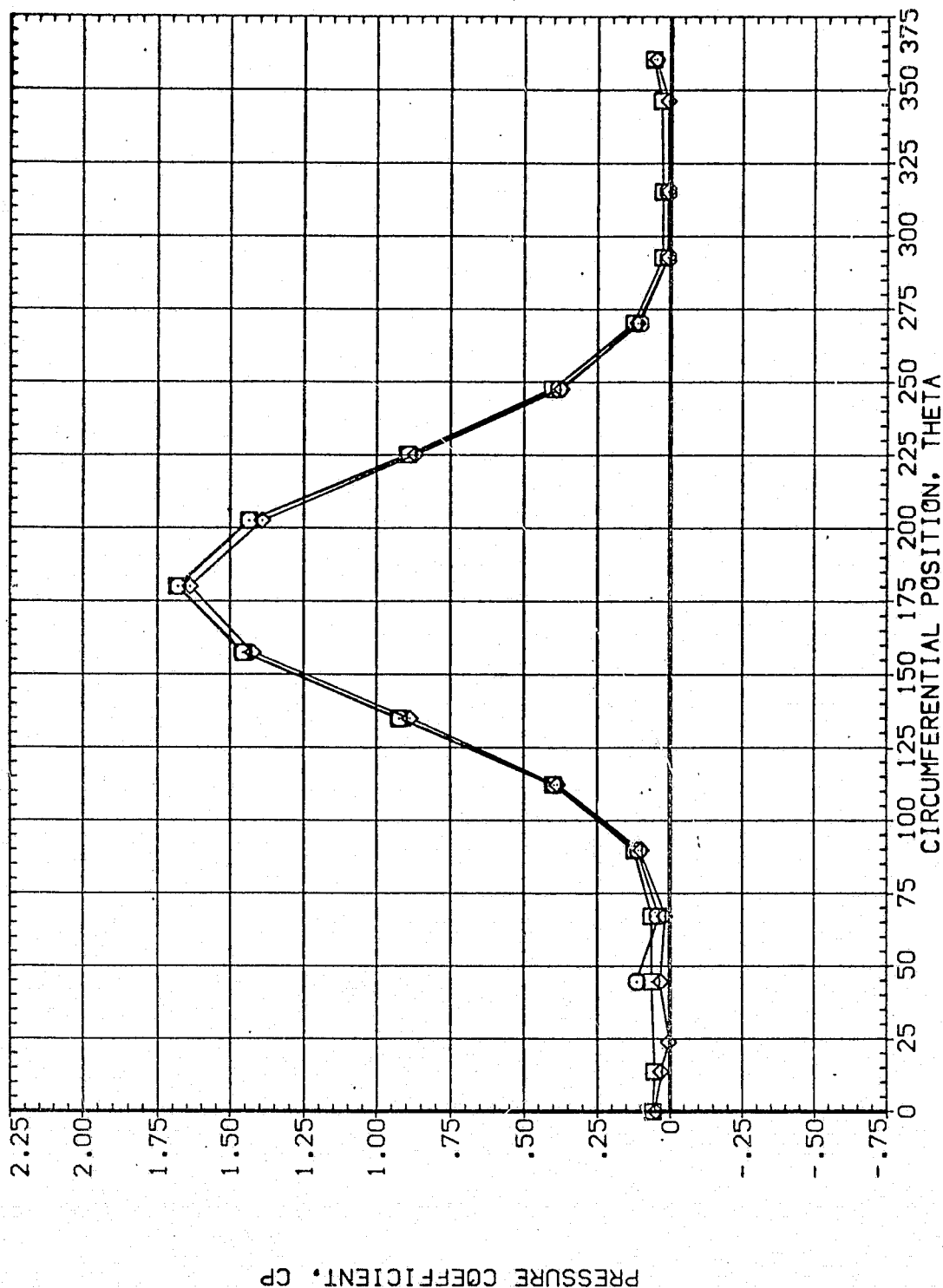


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.892	74.860	4.960	.000	.000	.000
□	.923			2.000		
◇	.954					

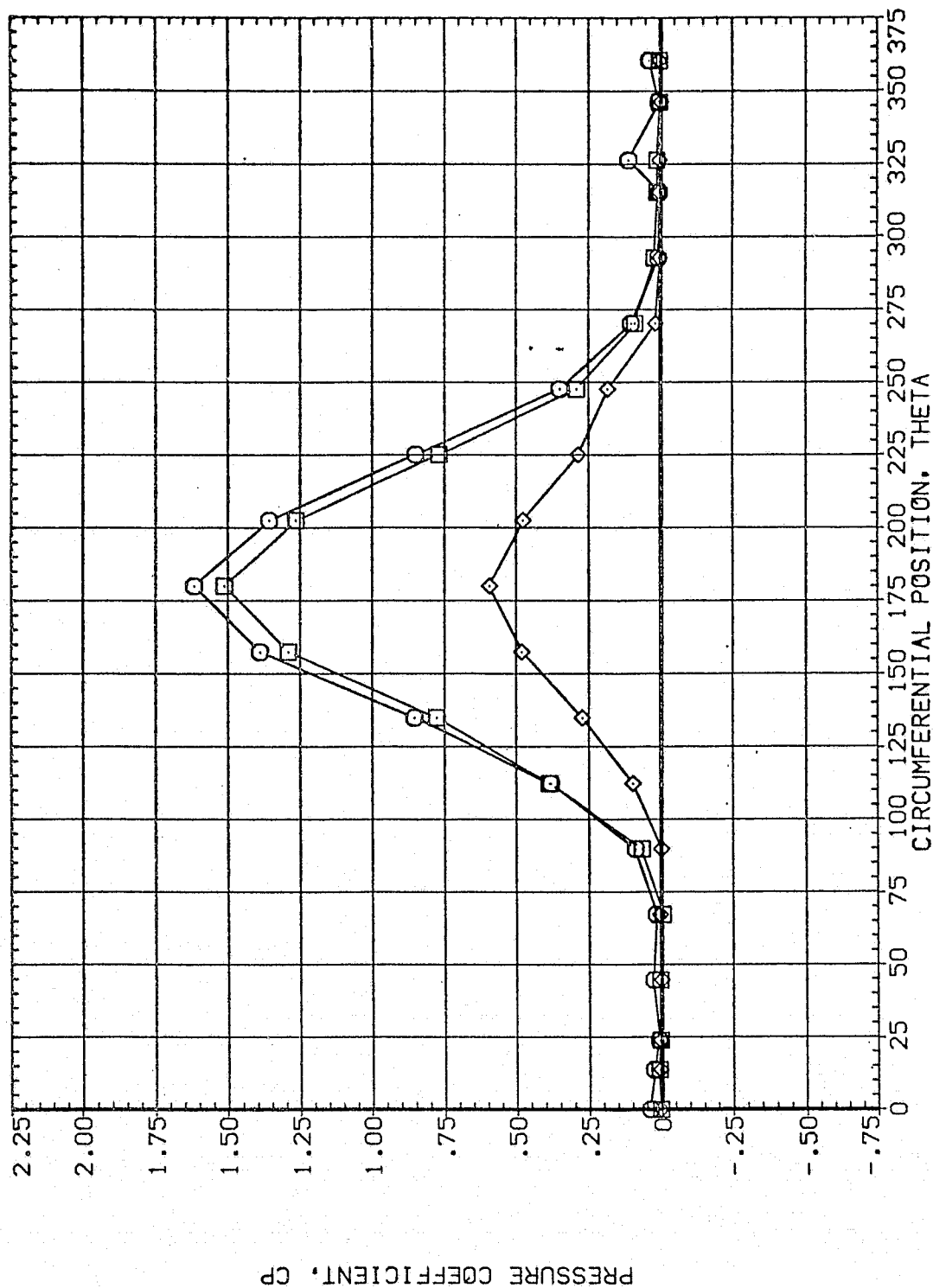


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2640

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL X/LB ALPHA MACH  
 ◊ .055 77.880 4.960  
 ◻ .108 .162

PARAMETRIC VALUES  
 BETA .000  
 HOUNT 2.000  
 OFFSET PHI 80.000  
 .000

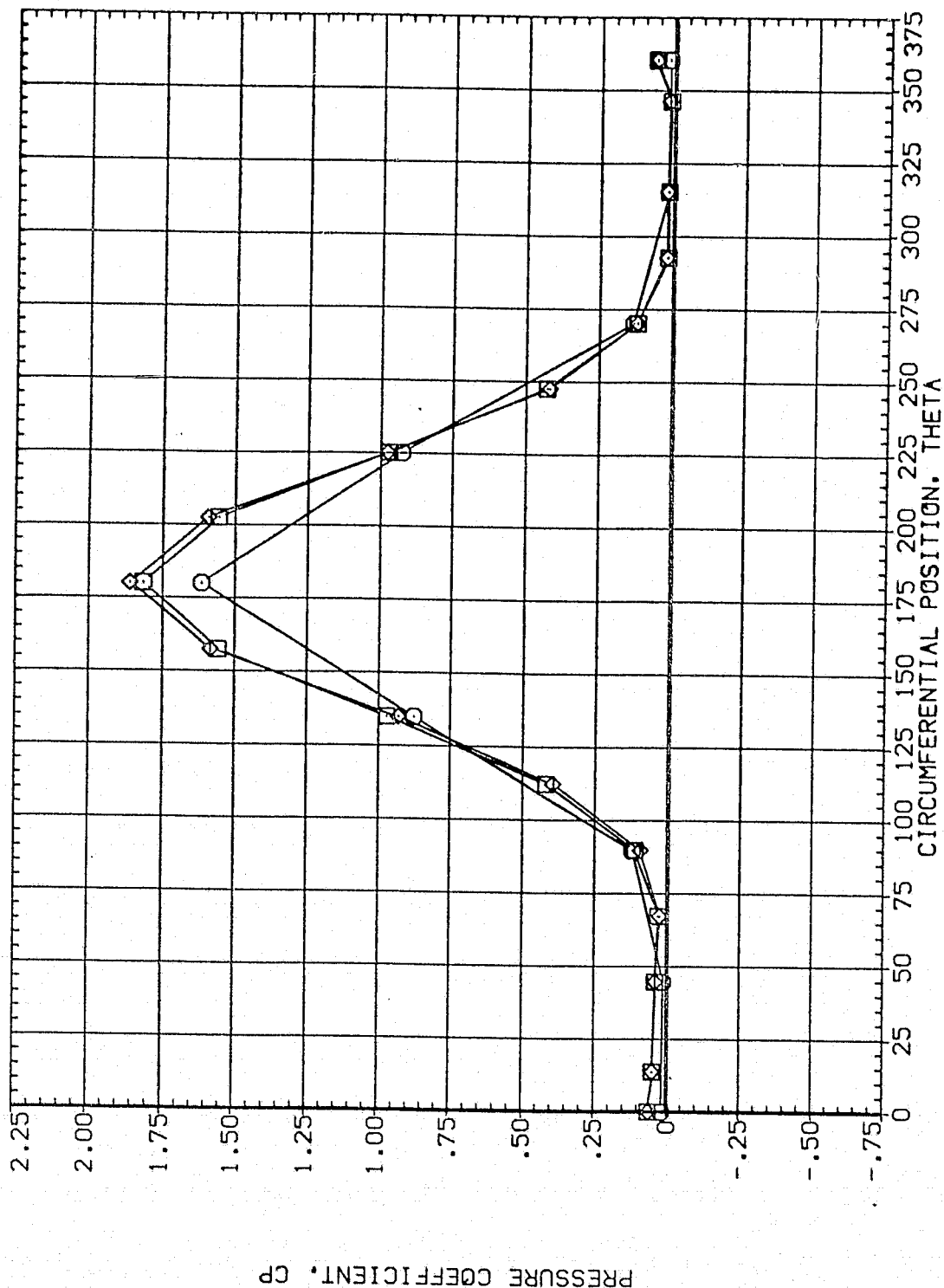


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL	X/LB	ALPHA	HACH
○	.216	77.880	4.960
□	.322		
◇	.518		

PARAMETRIC VALUES	
BETA	OFFSET
MOUNT	PHI
	.000
	.000

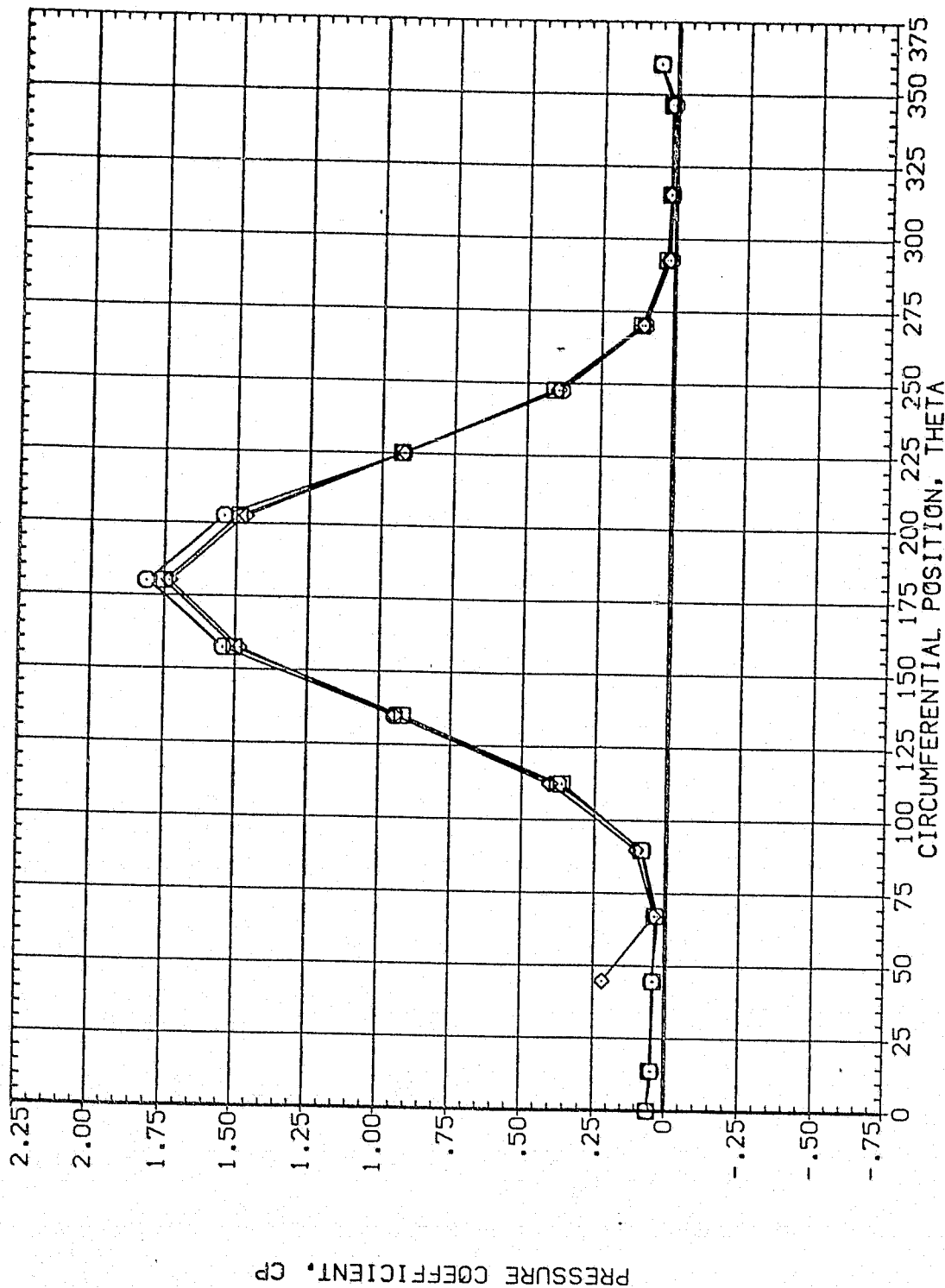


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A071)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA/	OFFSET	80.000
○	.610	77.880	4.960	HOUNT	PHI	.000
□	.735					
◇	.860					

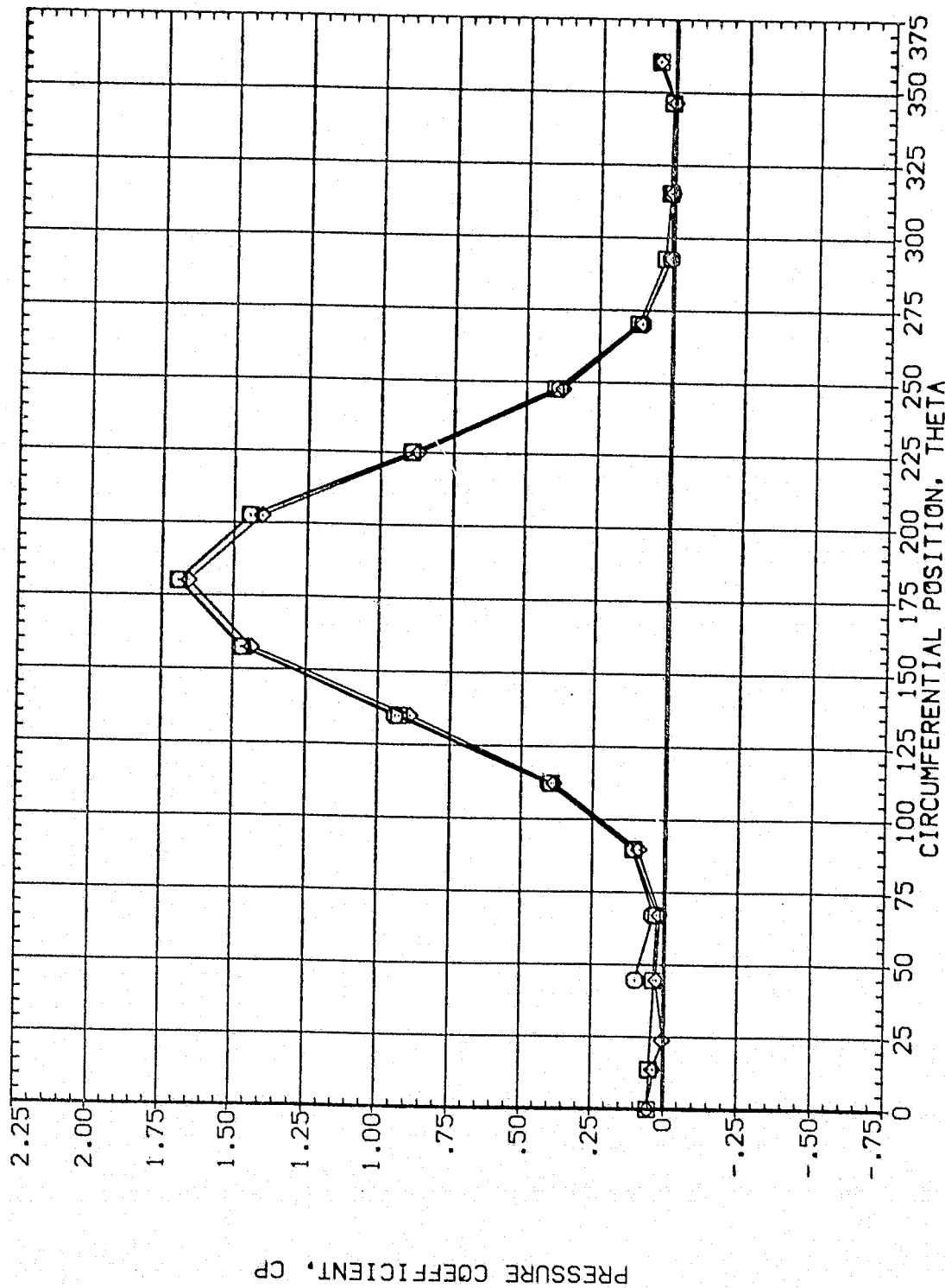


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	77.880	4.960	MOUNT	.000 OFFSET
□	.923				2.000 PHI
◇	.954				80.000

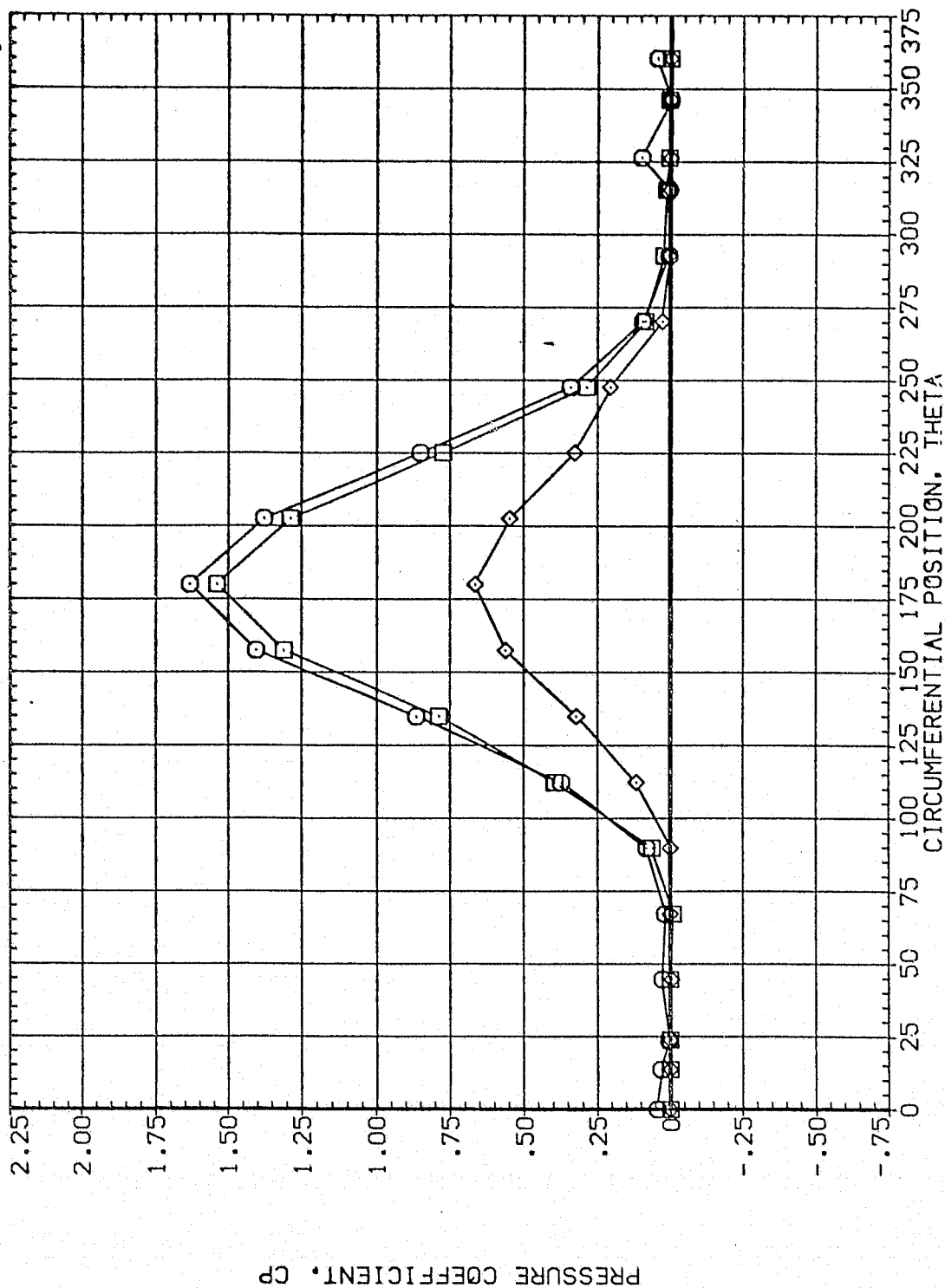


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (1A-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

PARAMETRIC VALUES  
BETA .000  
MOUNT 2.000  
OFFSET 90.000  
PHI .000

SYMBOL X/LB ALPHA MACH  
◇ .055 79.930 4.960  
□ .108  
◇ .162

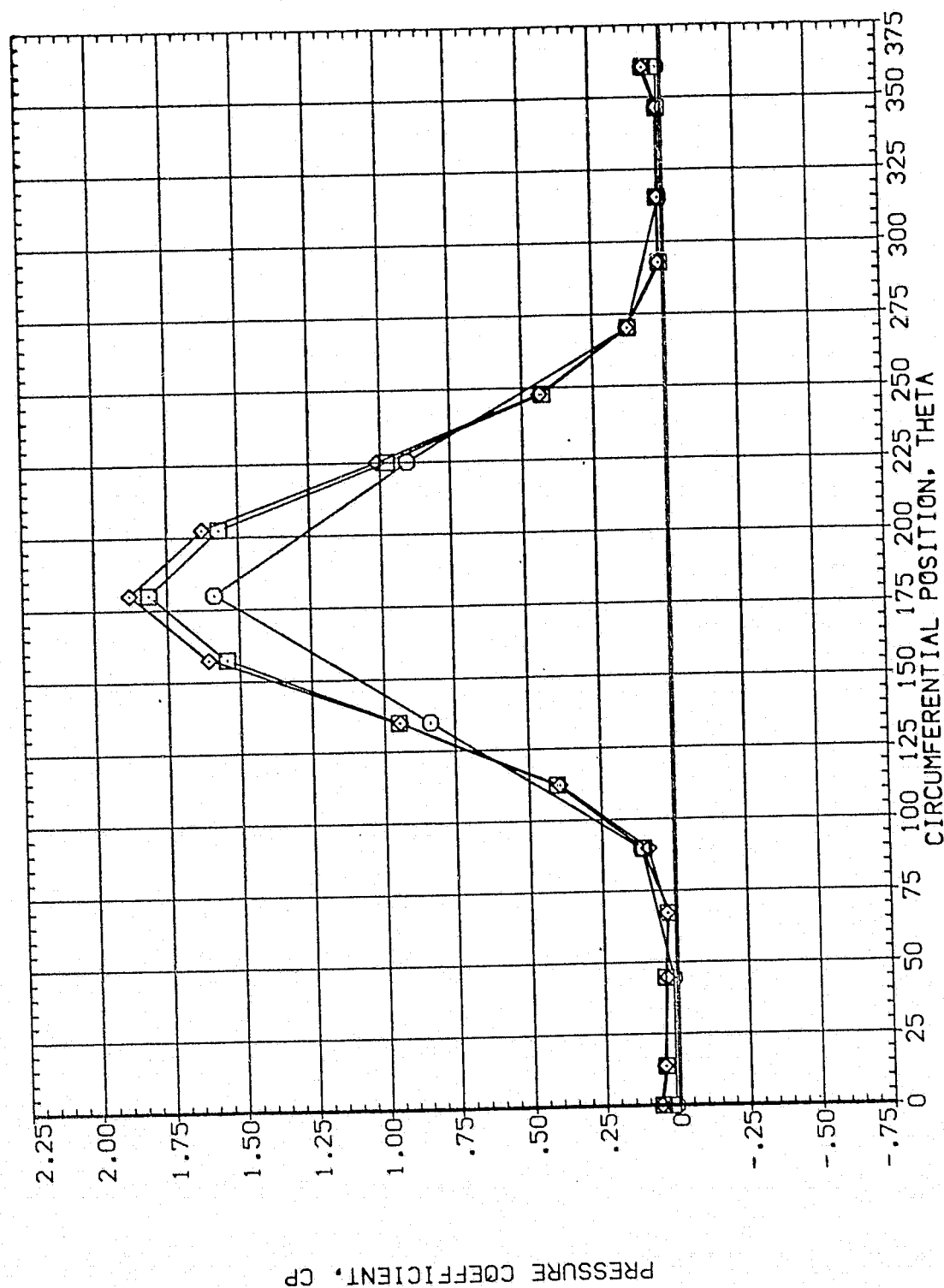


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2645

(P1A072)

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

PARAMETRIC VALUES  
BETA .000  
HOUNT 2.000  
OFFSET 90.000  
PHI .000

SYMBOL X/LB ALPHA MACH  
◇ .216 79.930 4.960  
□ .322  
◇ .518

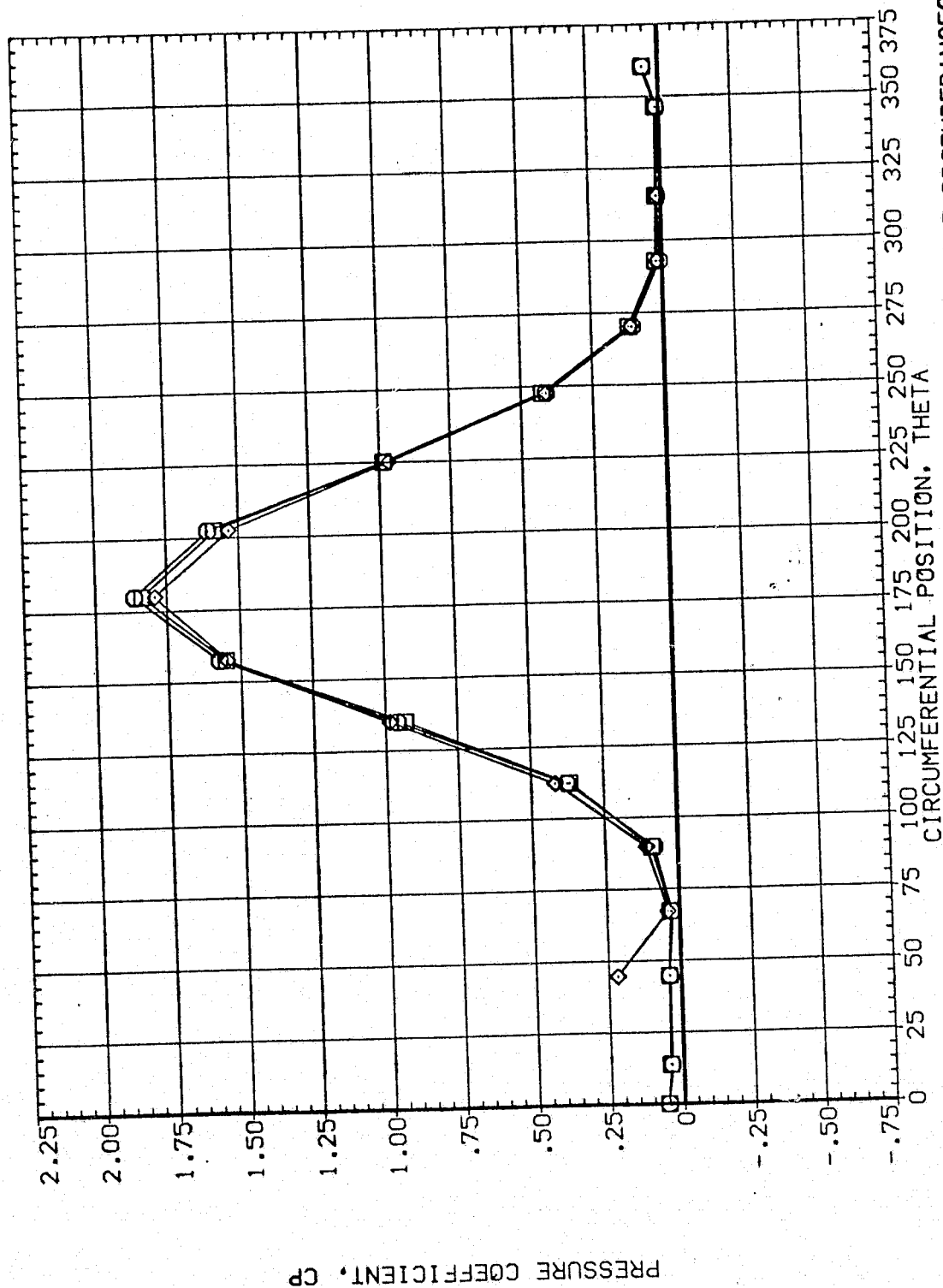


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A072)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
□	.610	79.930	4.960	2.000	PHI	.000
◇	.735					
	.860					

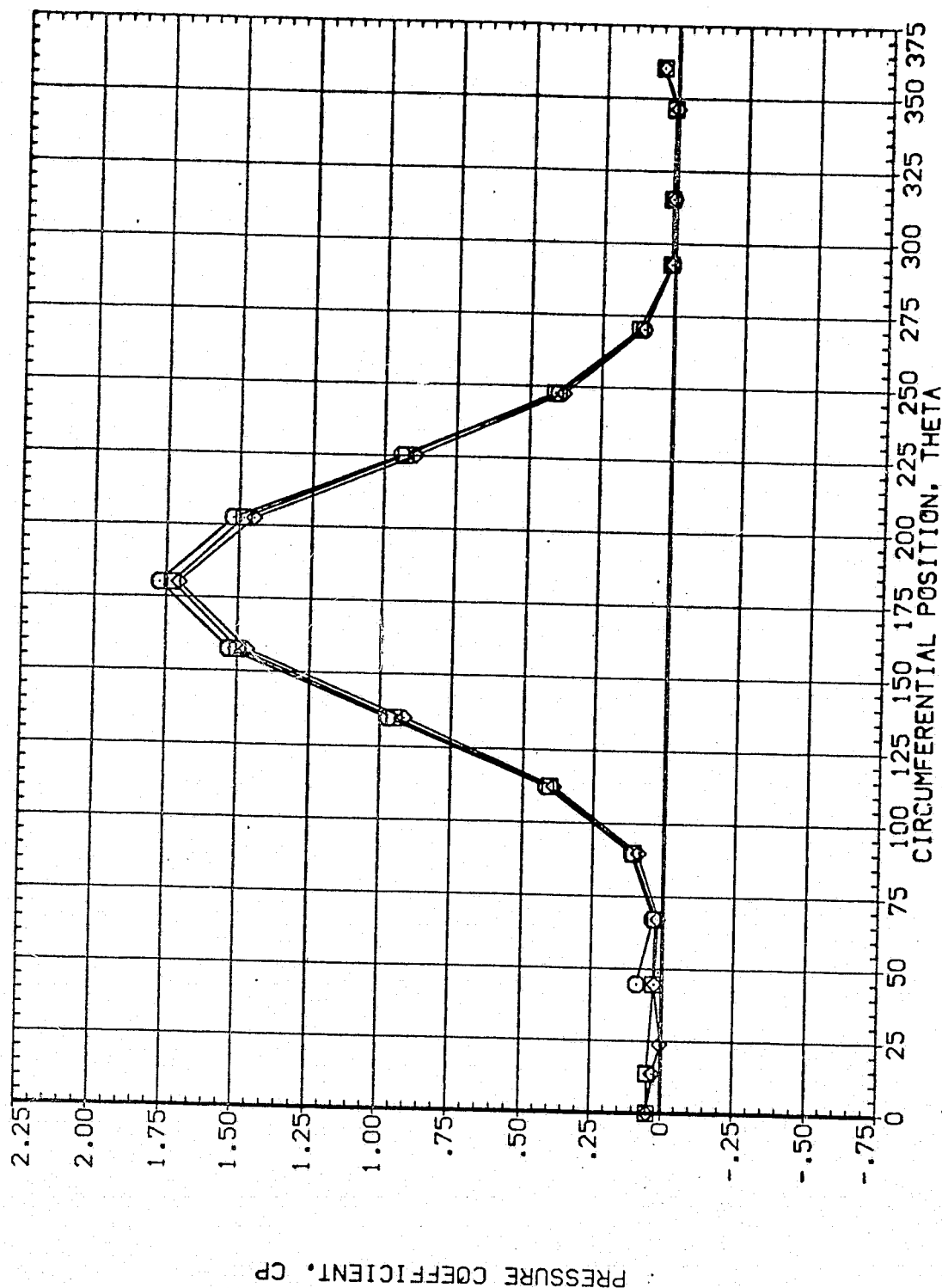


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL  
 ○ □ ◇

X/LB  
 .892  
 .923  
 .954

ALPHA  
 79.930

MACH  
 4.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 .000 .000  
 2.000 PHI 90.000

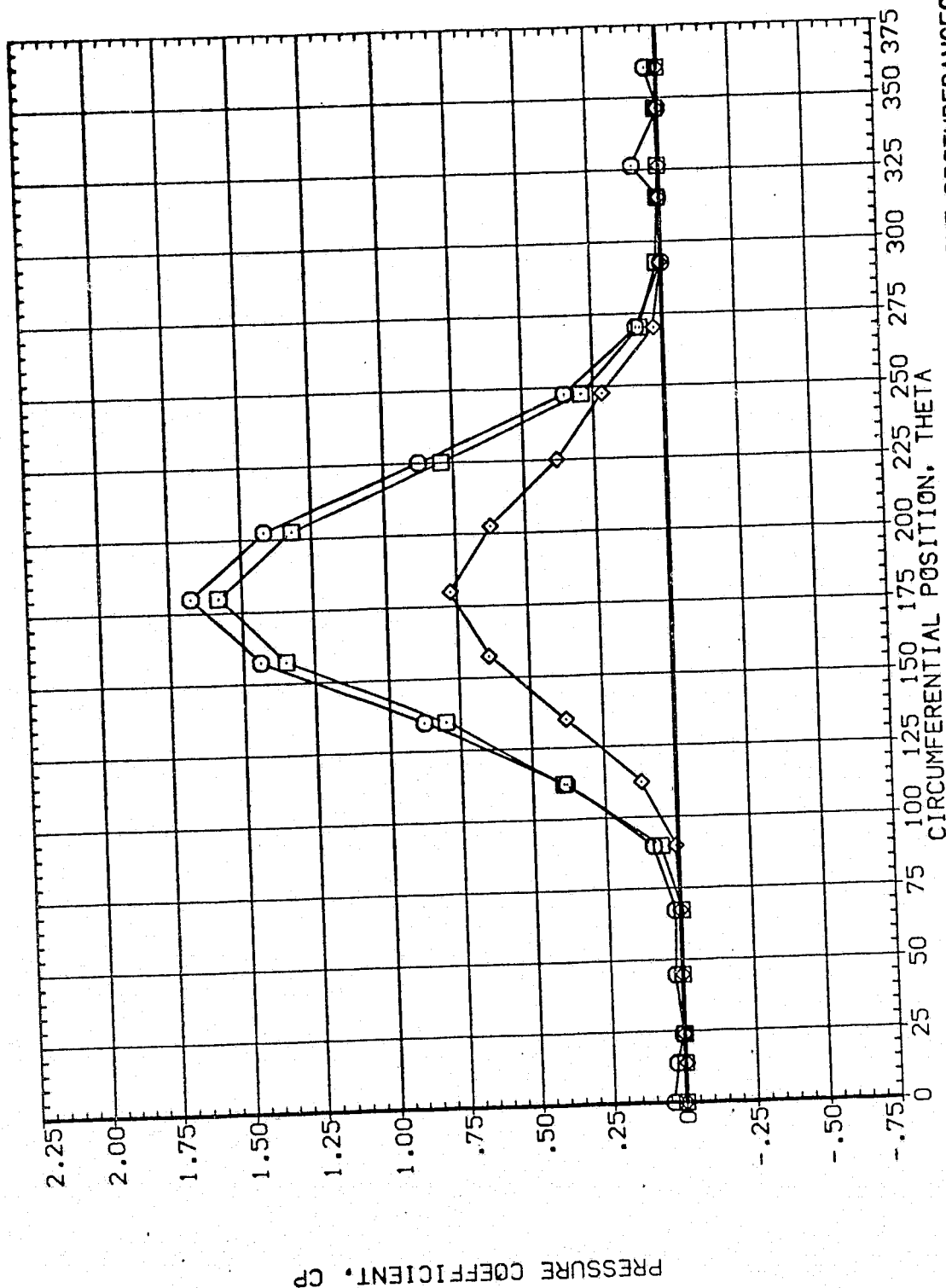


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - 12 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
◇	.055	81.830	4.960	2.000	.000	.000
□	.108					
◇	.162					

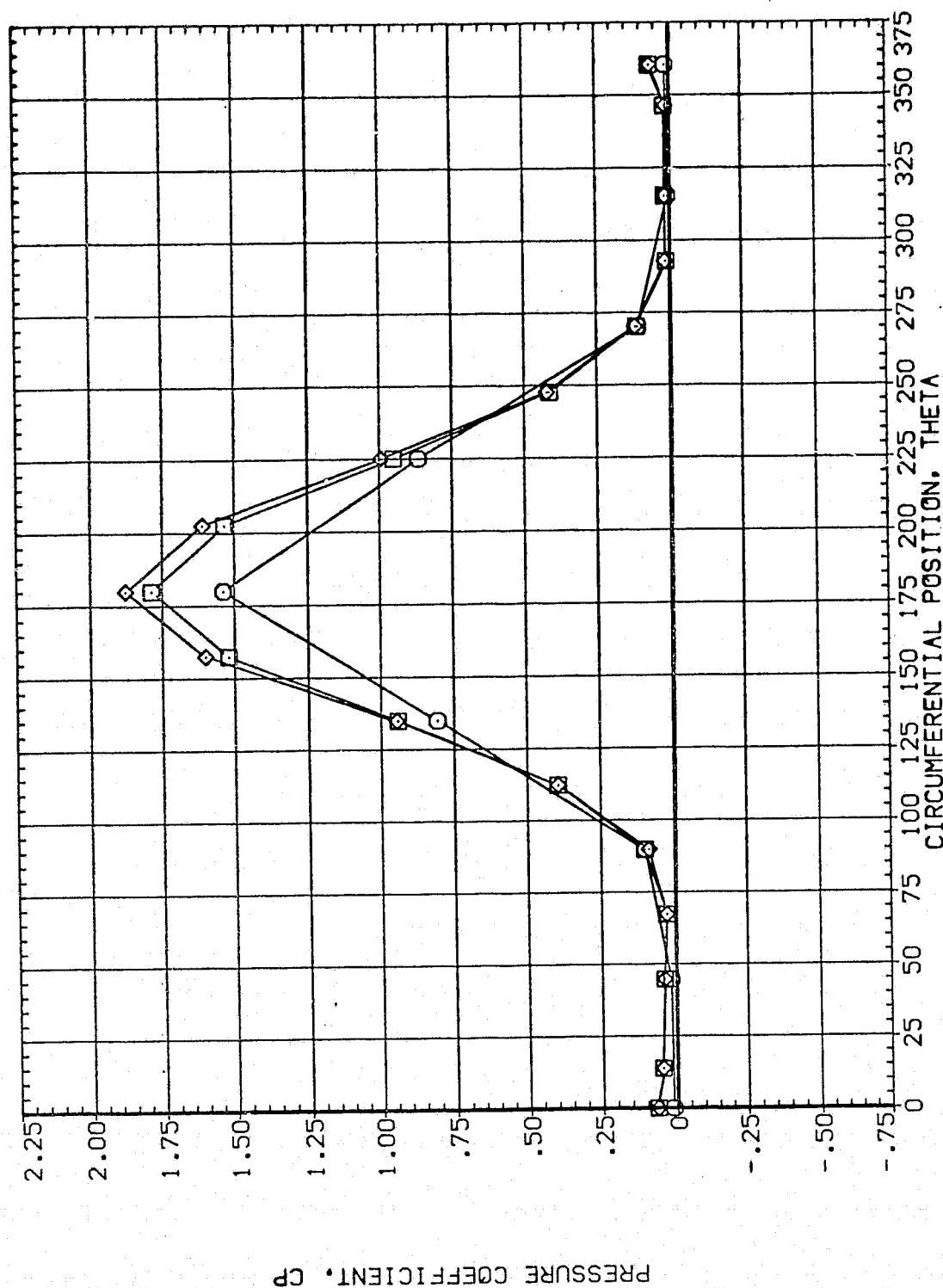


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTRUBERANCES

SYMBOL X/LB ALPHA MACH  
 □ .216 81.830 4.960  
 ◇ .322 .518

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

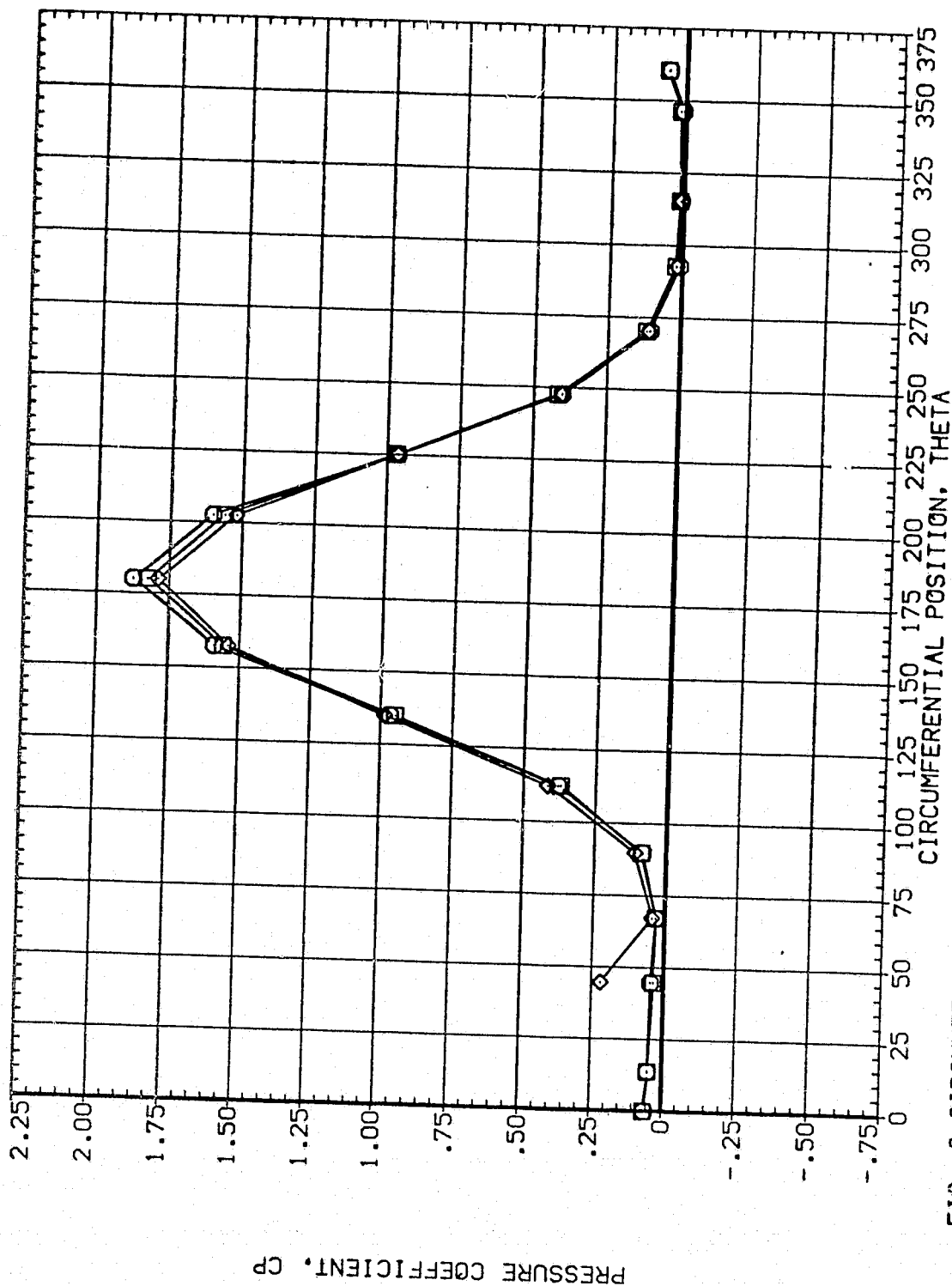


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A073)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.610	81.830	4.960	MOUNT	.000	50.000
□	.735				2.000	
◇	.860					.000

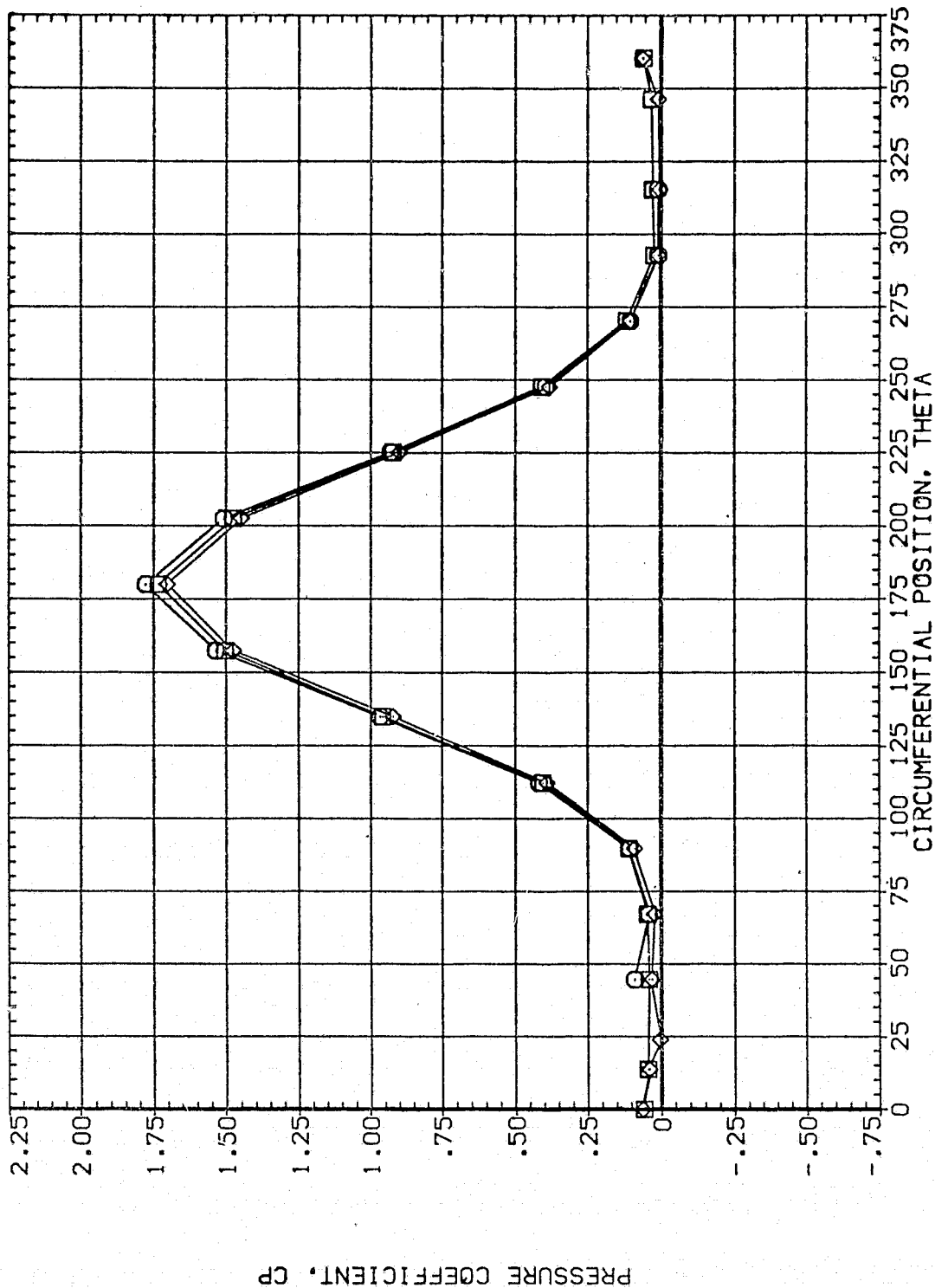


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SVISOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	81.830	4.960	MOUNT	.000 OFFSET
□	.923				2.000 PHI
◇	.954				.000

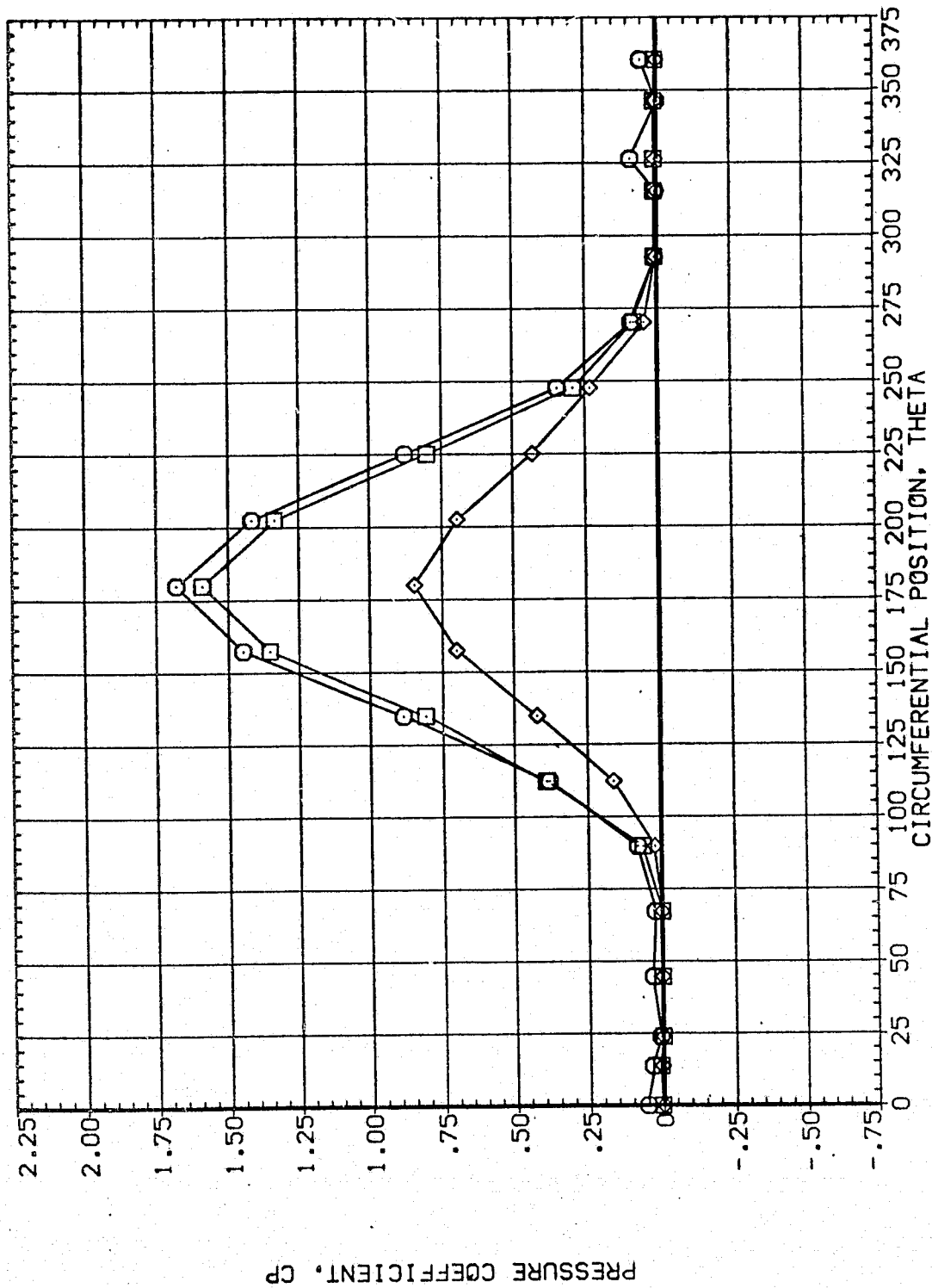


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL X/LB  
 ○ .055  
 □ .108  
 ◇ .162

ALPHA 84.830  
 MACH 4.960

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET PHI 90.000  
 .000

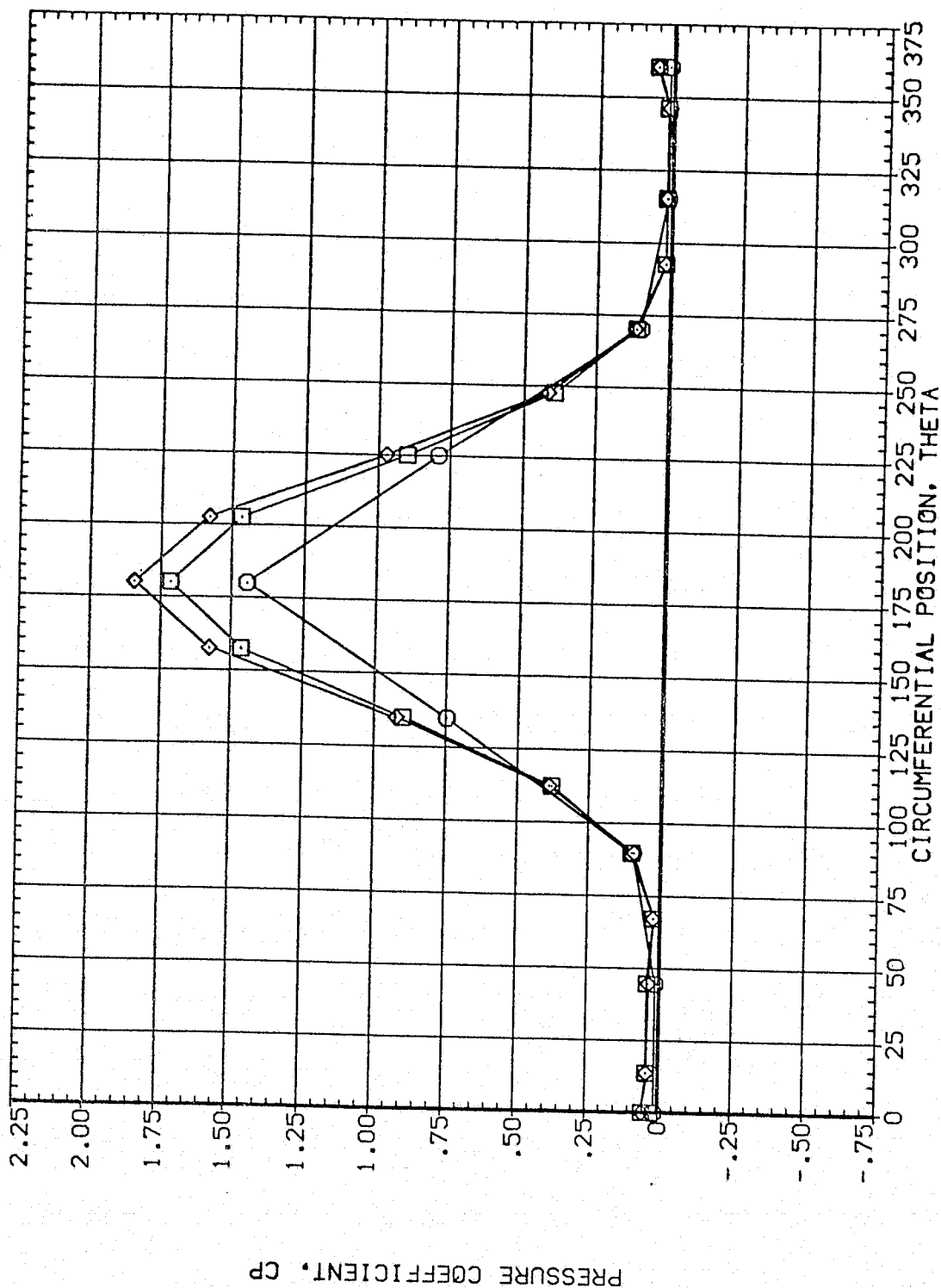


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.216	84.830	4.960	MOUNT	.000	.000
◇	.322					
◇	.518					

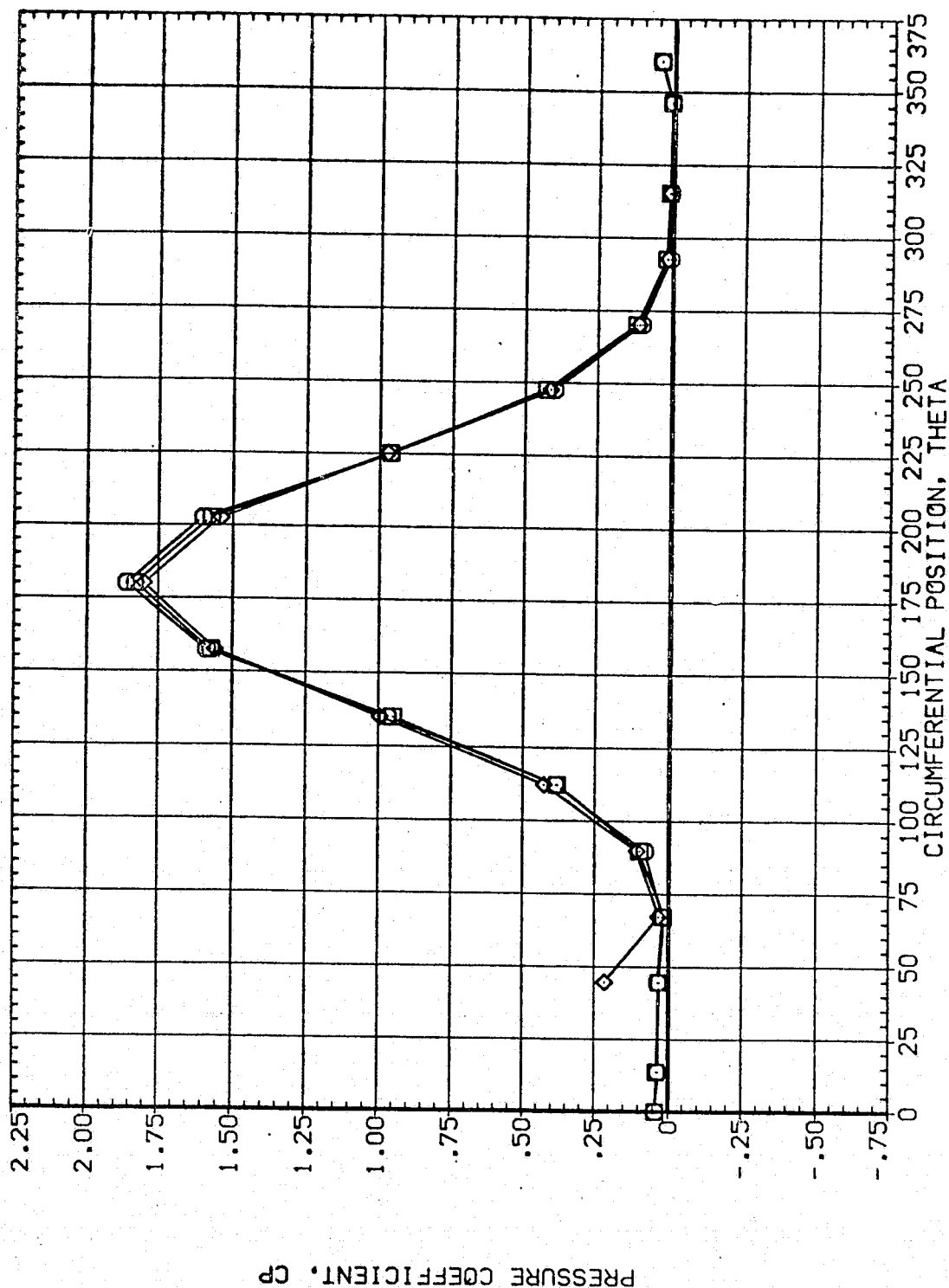


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A074)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
○	.610	84.830	4.960	HOUNT	PHI	.000
□	.735					
◇	.860					

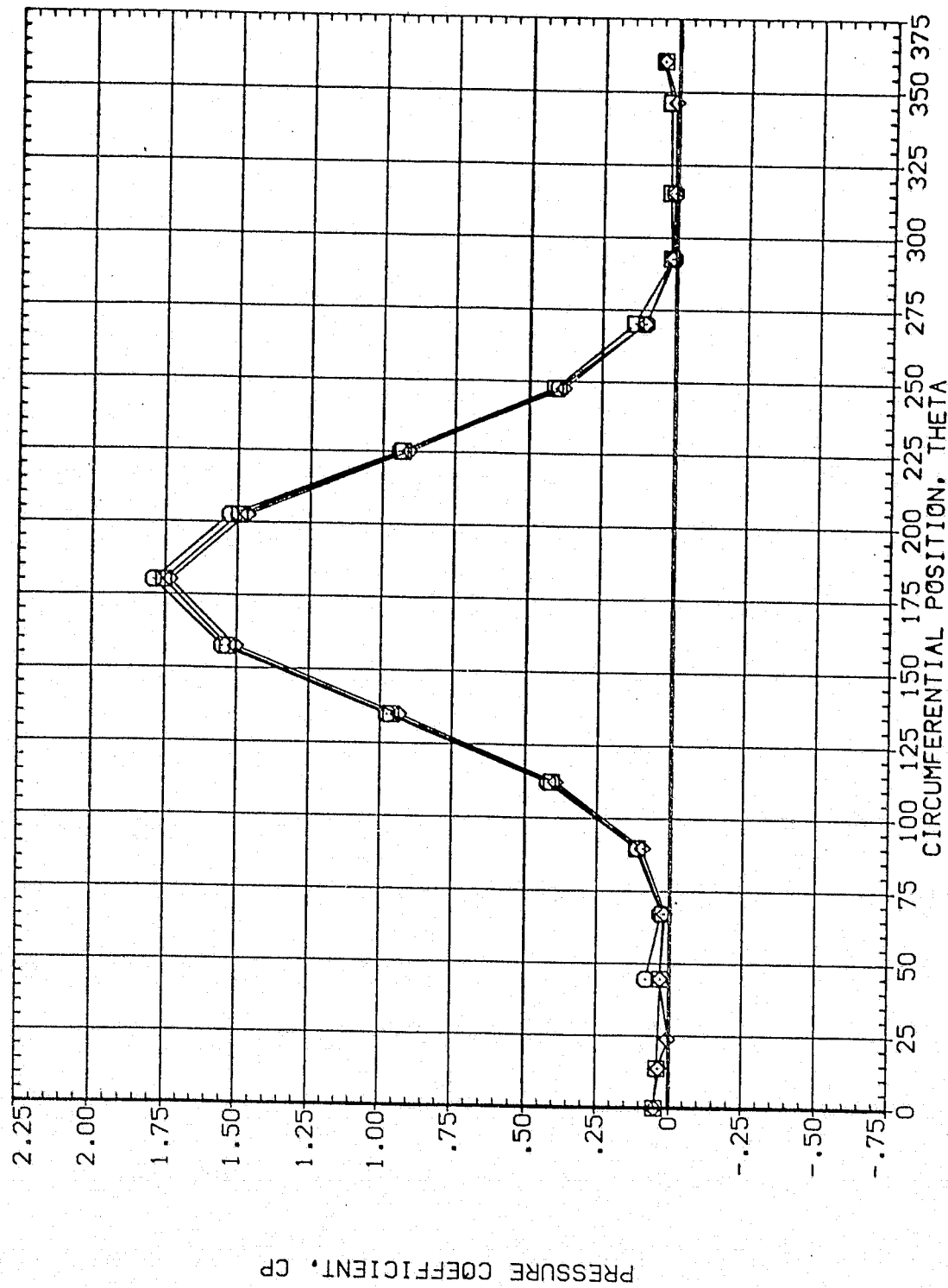


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL  
 ○  
 □  
 ◇

X/LB .892  
 .923  
 .954

ALPHA 84.830

MACH 4.960

BETA  
 MOUNT

PARAMETRIC VALUES  
 .000 .000  
 2.000 PHI

90.000  
 .000

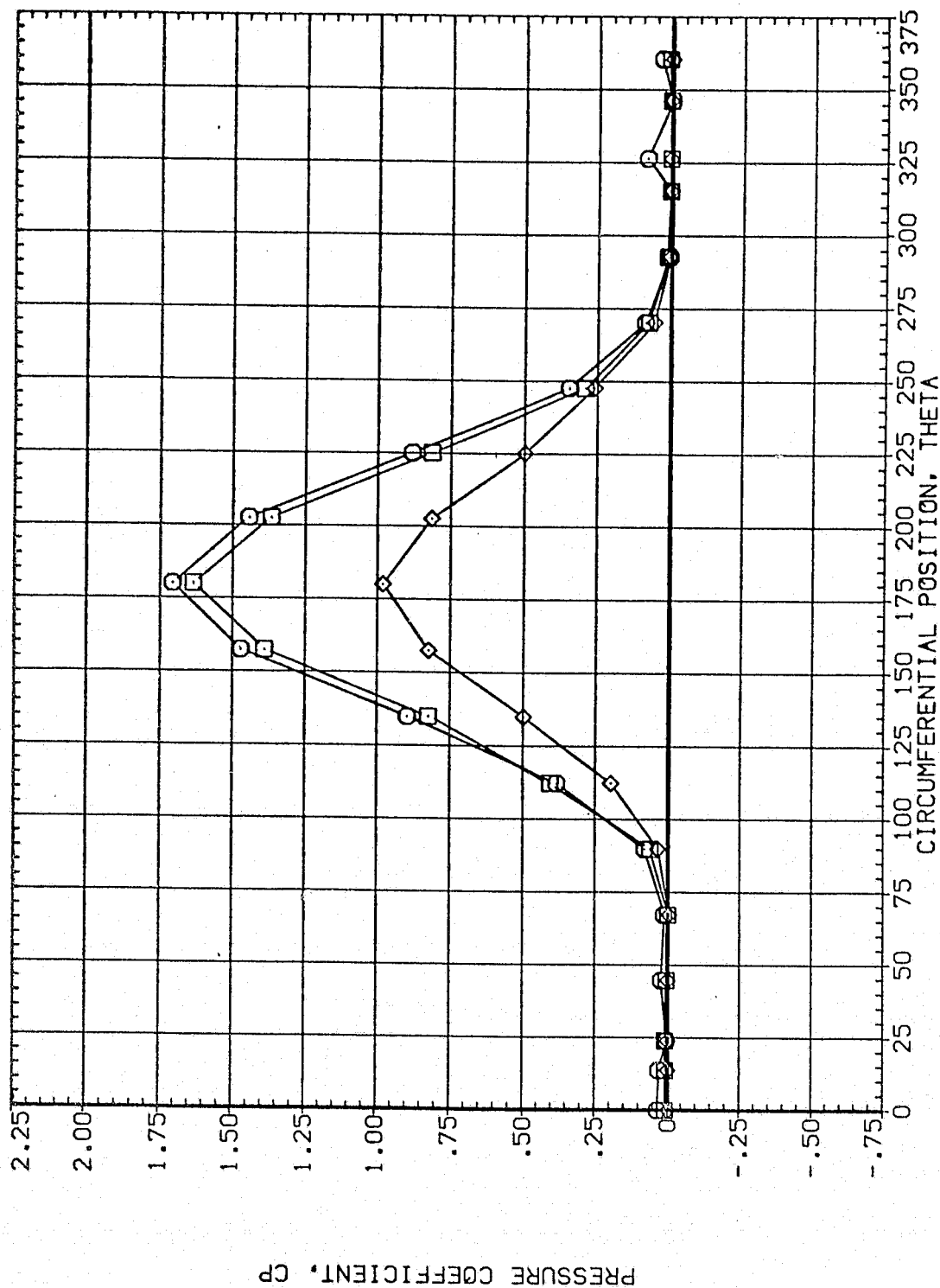


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL X/LB ALPHA MACH  
 O .055 87.830 4.960  
 □ .108  
 ◇ .162

PARAMETRIC VALUES  
 BETA .000  
 MOUNT 2.000  
 OFFSET 90.000  
 PHI .000

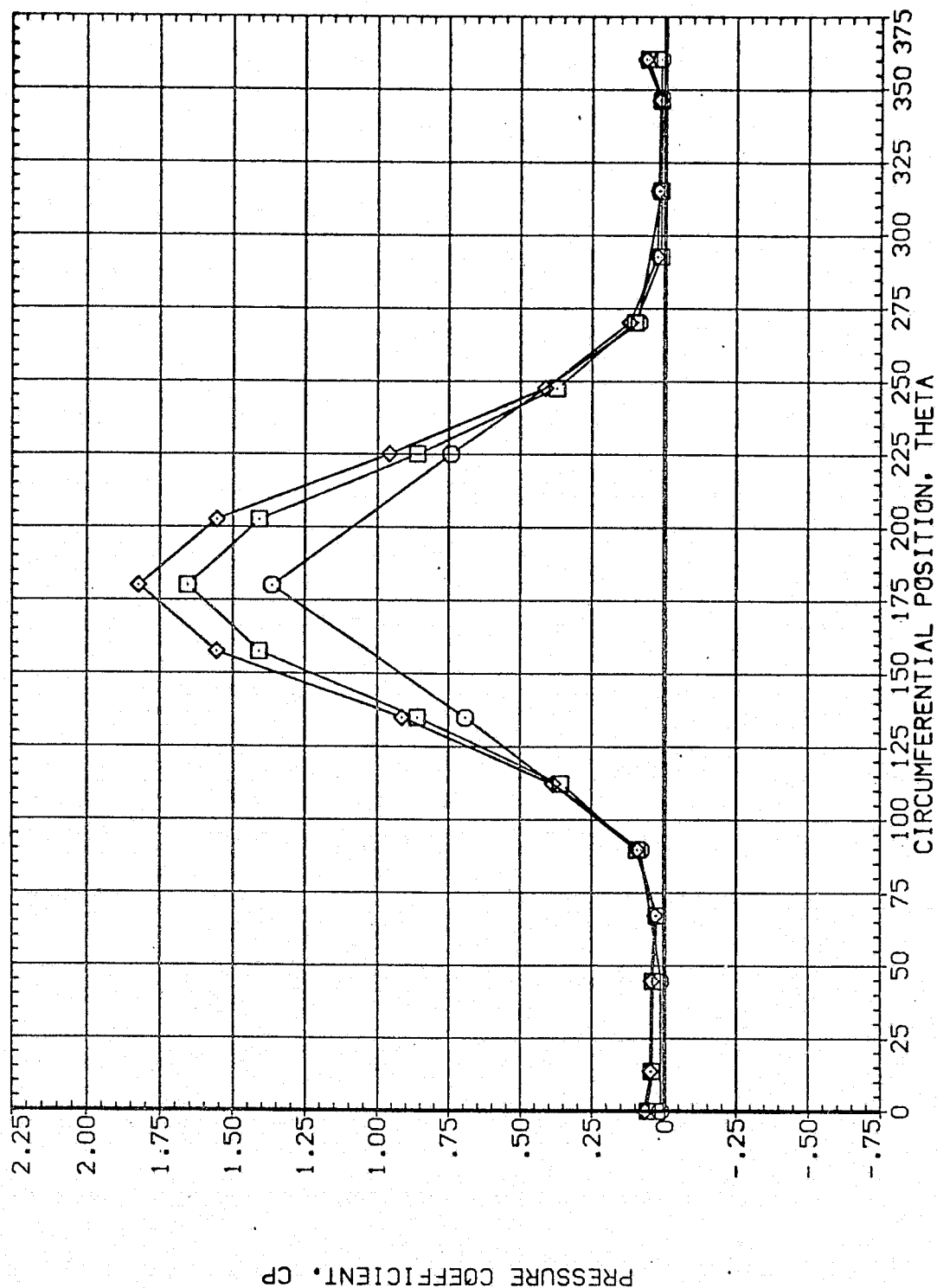


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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 ORIGINAL PAGE IS POOR

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	90.000
				HOUNT	PHI	.000
	.216	87.830	4.960			
	.322					
	.518					

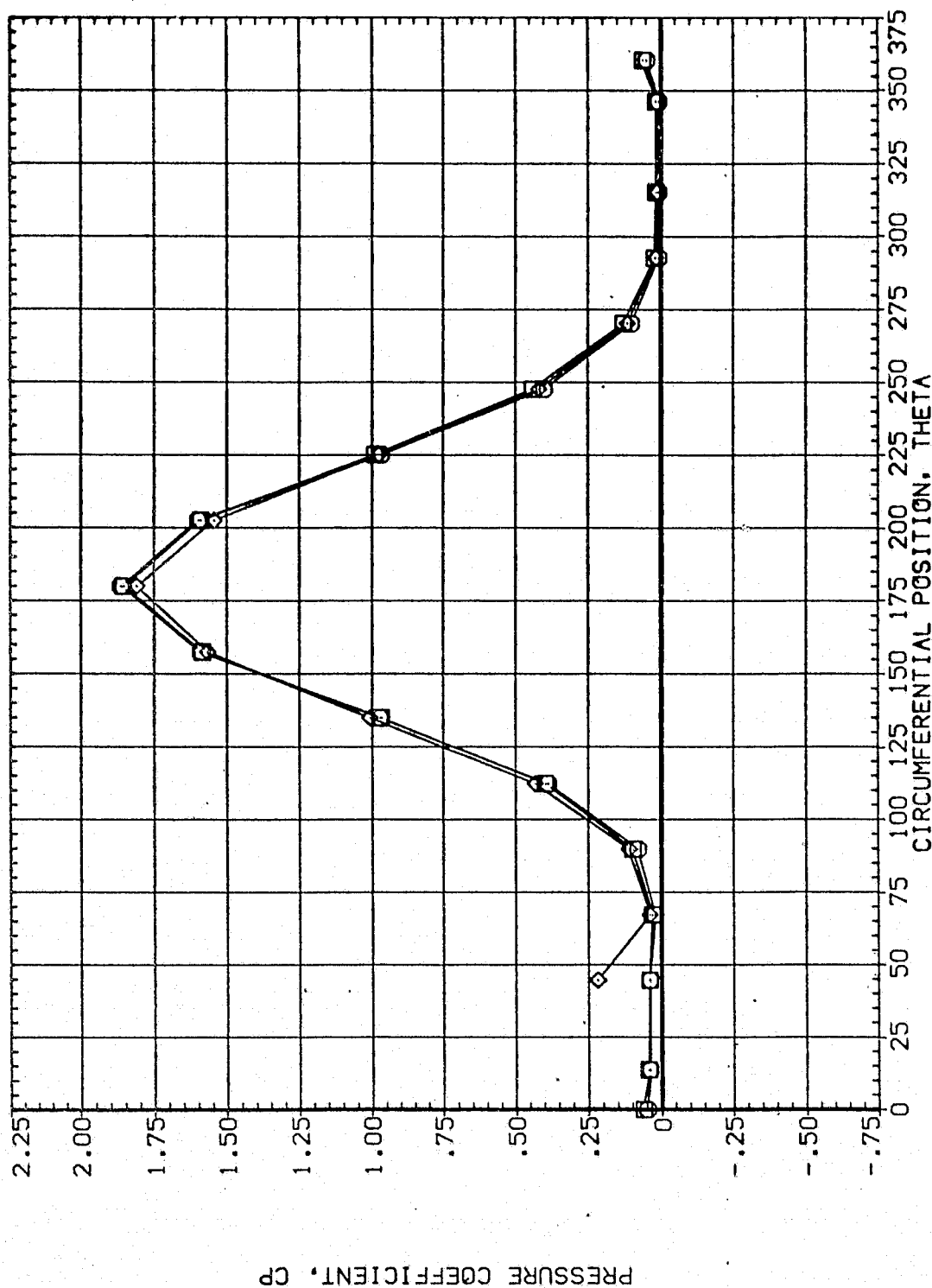


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A075)

SYMBOL	X/LB	ALPHA	HACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.610	87.830	4.960	2.000	.000	90.000
◇	.735					.000
◇	.860					

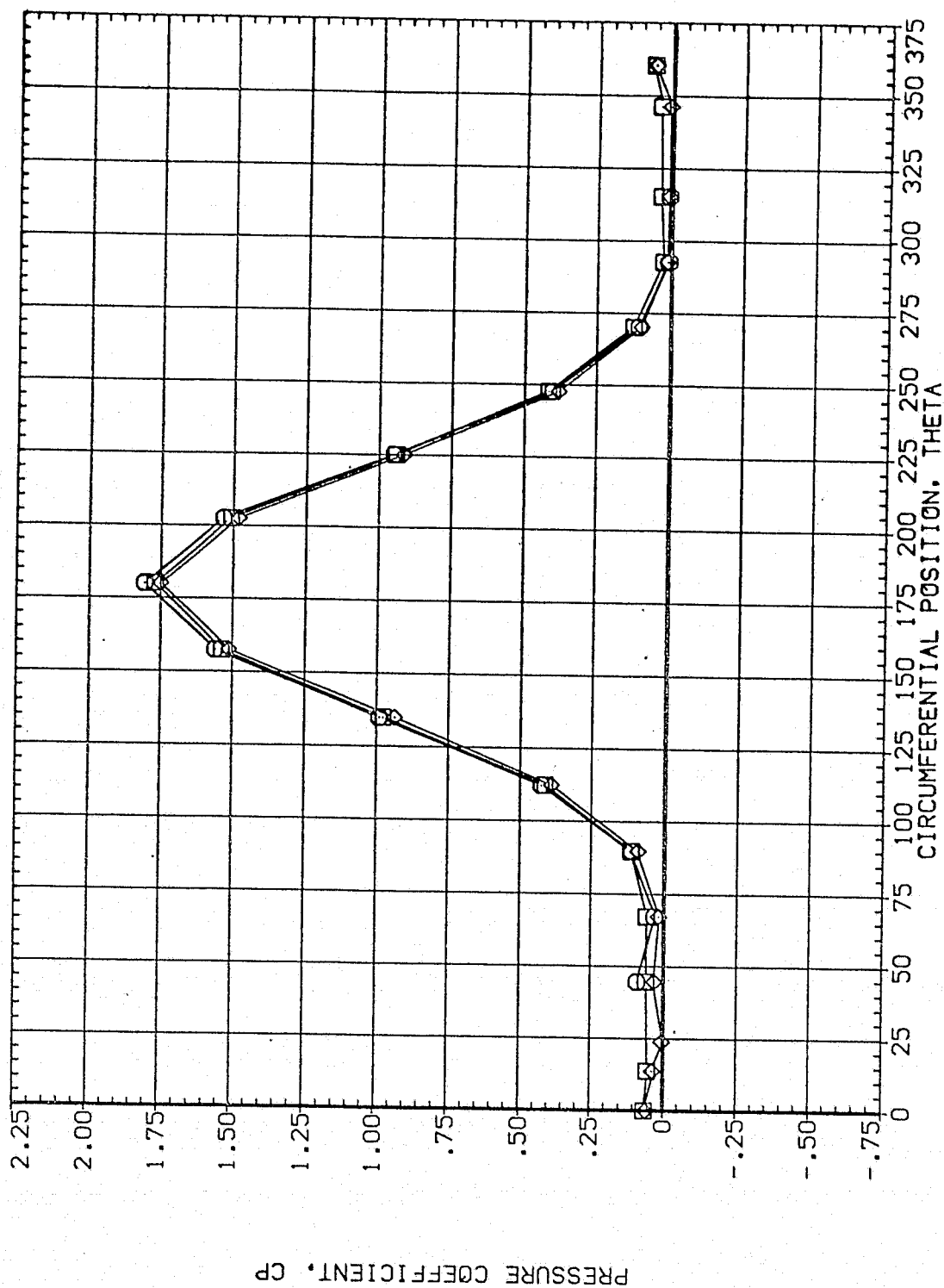


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	HACH	BETA	PARAMETRIC VALUES
□	.892	87.830	4.960	OUNT	.000
◇	.923			PHI	2.000
	.954				90.000
					.000

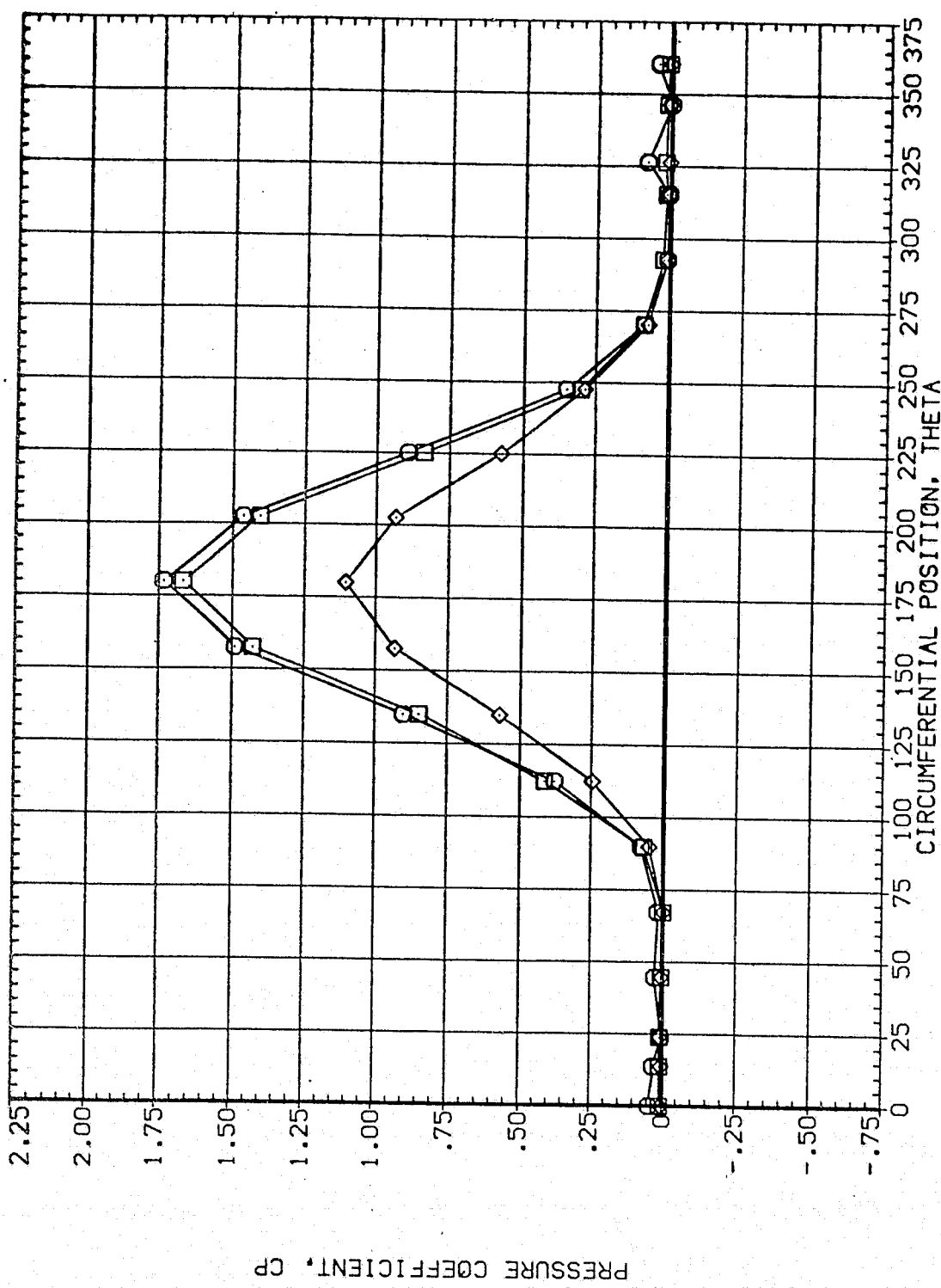


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A076)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
	.055	89.830	4.960	BETA	.000	OFFSET
	.108			MMOUNT	2.000	PHI
◇	.162				90.000	.000

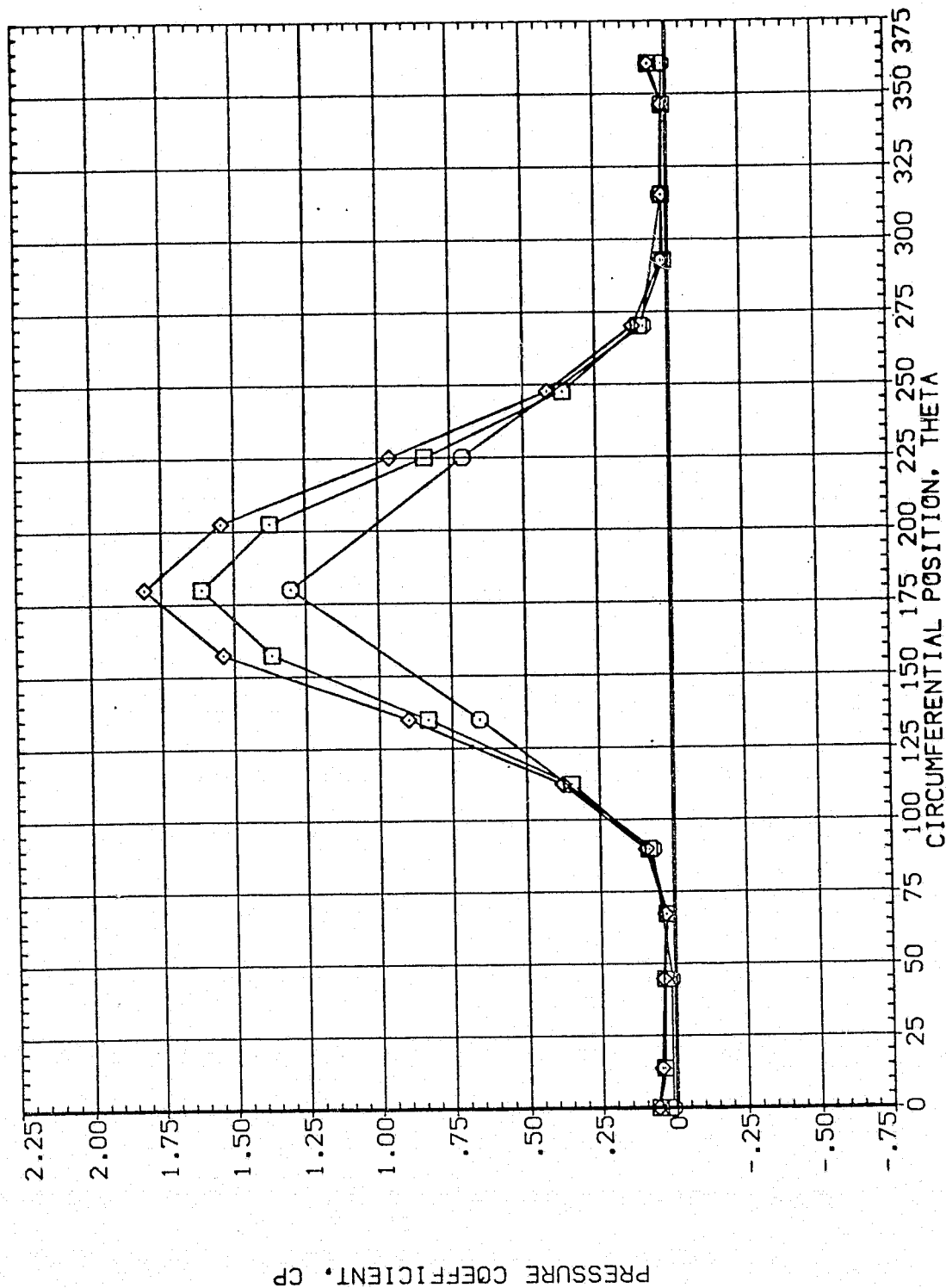


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

PARAMETRIC VALUES  
BETA .000  
HOUNT 2.000  
OFFSET PHI .000  
90.000

SYMBOL X/LB ALPHA MACH  
□ .216 89.830 4.960  
□ .322  
◇ .518

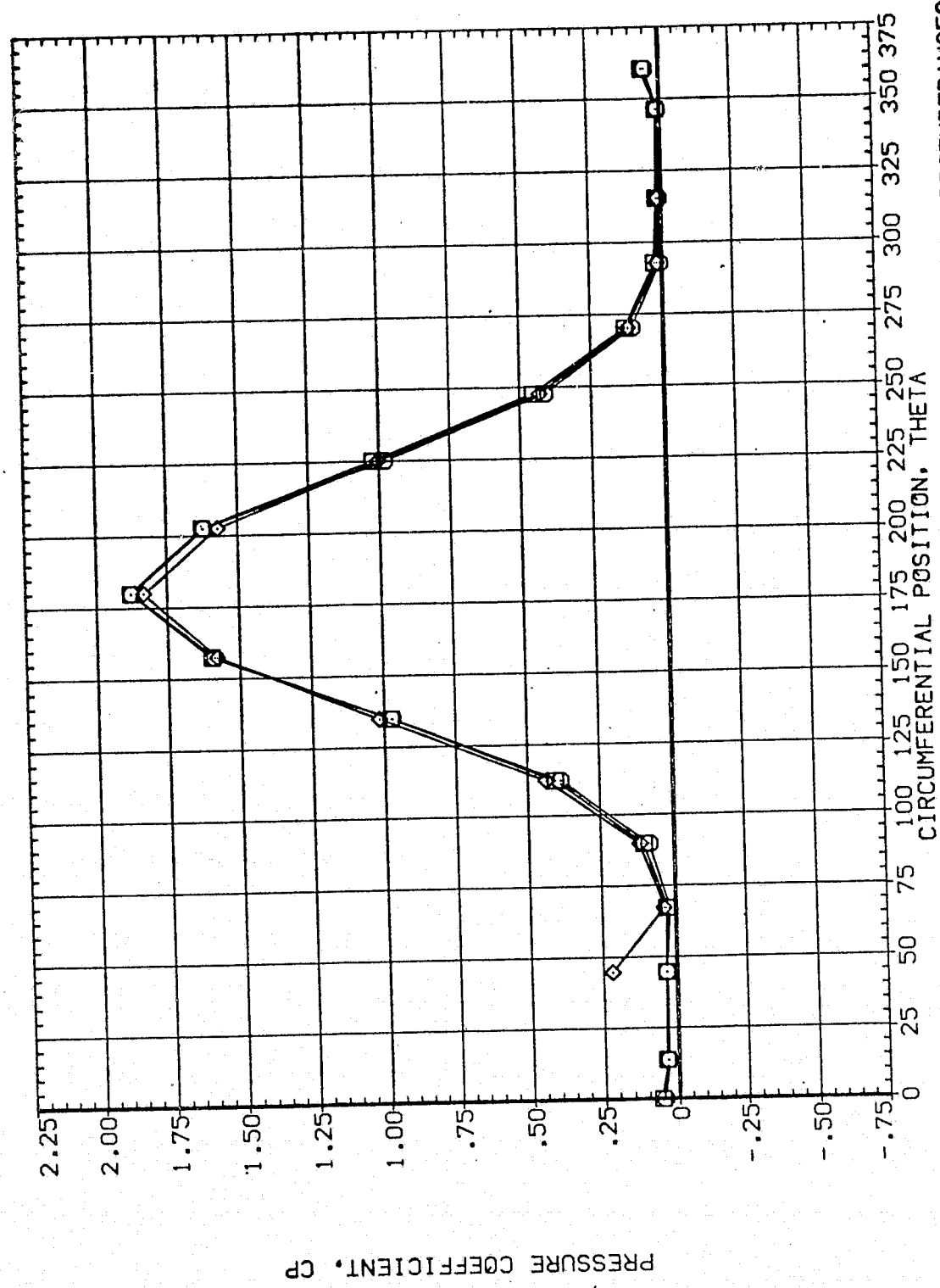


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2662



# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

SYMBOL

X/LB

ALPHA

MACH

PARAMETRIC VALUES

BETA

OFFSET

PHI

90.000

.000

2.000

.000

(P1A076)

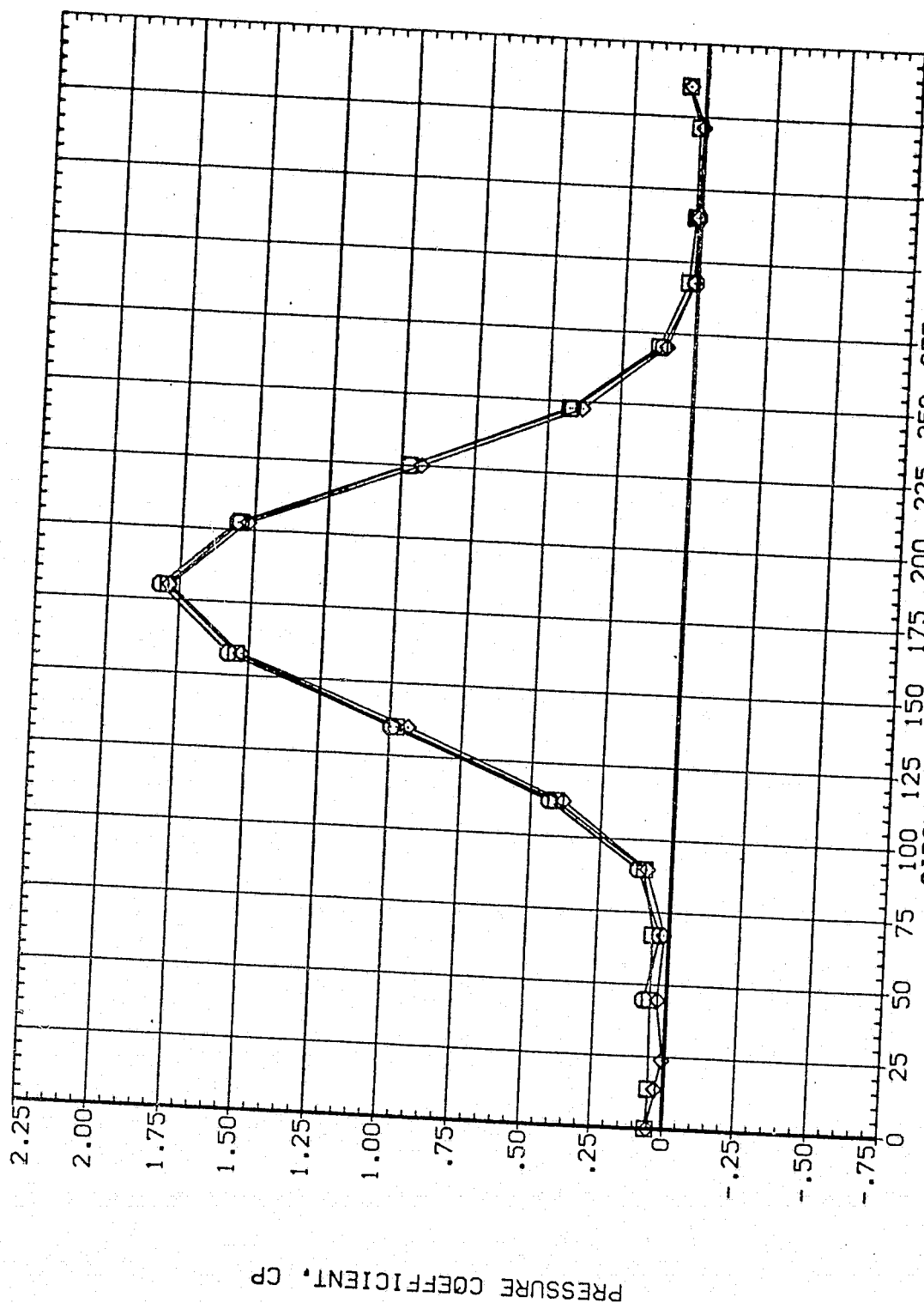


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	.892	89.830	4.960	MOUNT	.000
◇	.923			OFFSET	.000
	.954			PHI	

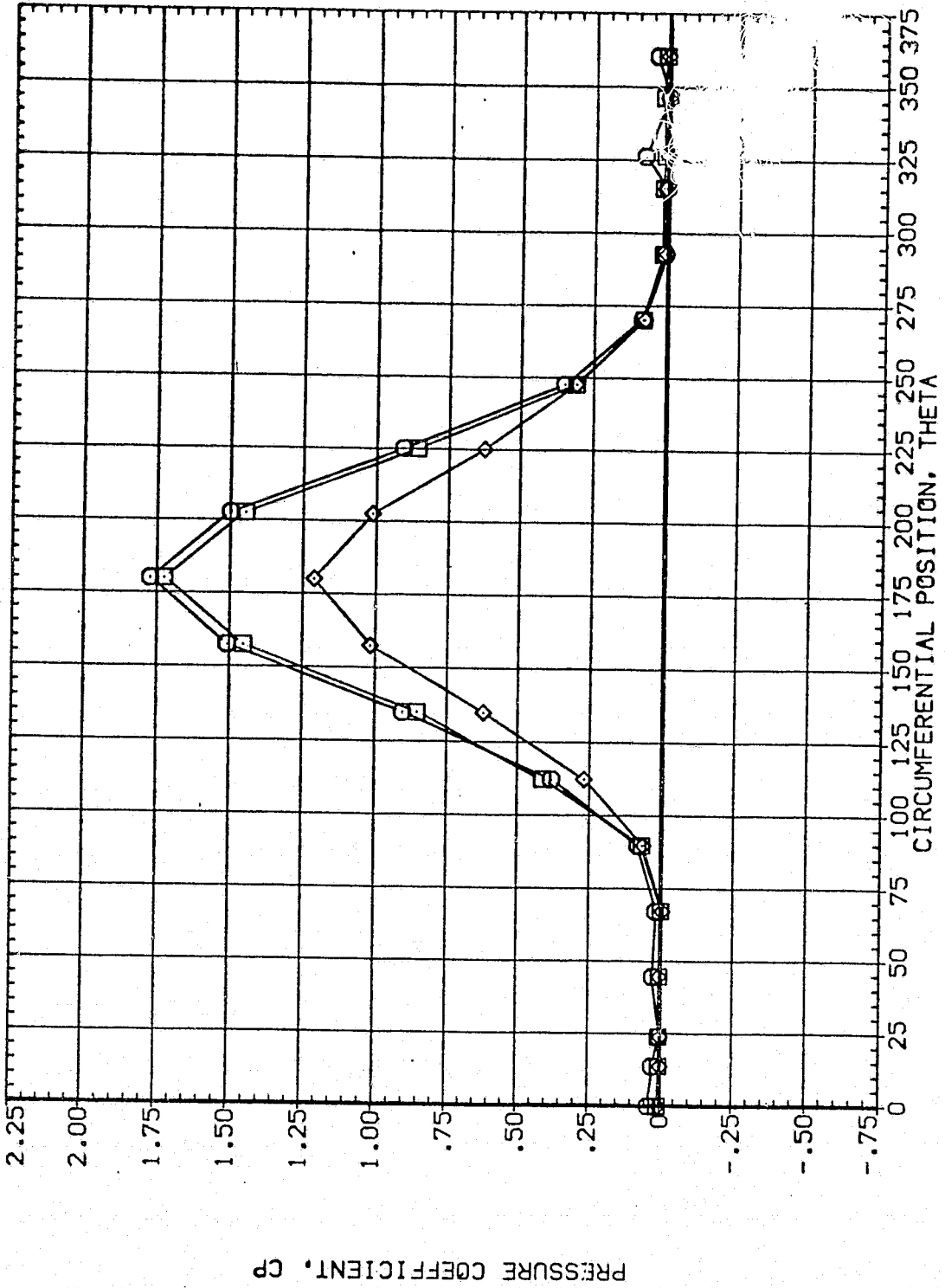


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

PAGE 2664

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	91.850	4.960	HOUNT	.000	90.000
□	.108				2.000	
◇	.162					.000

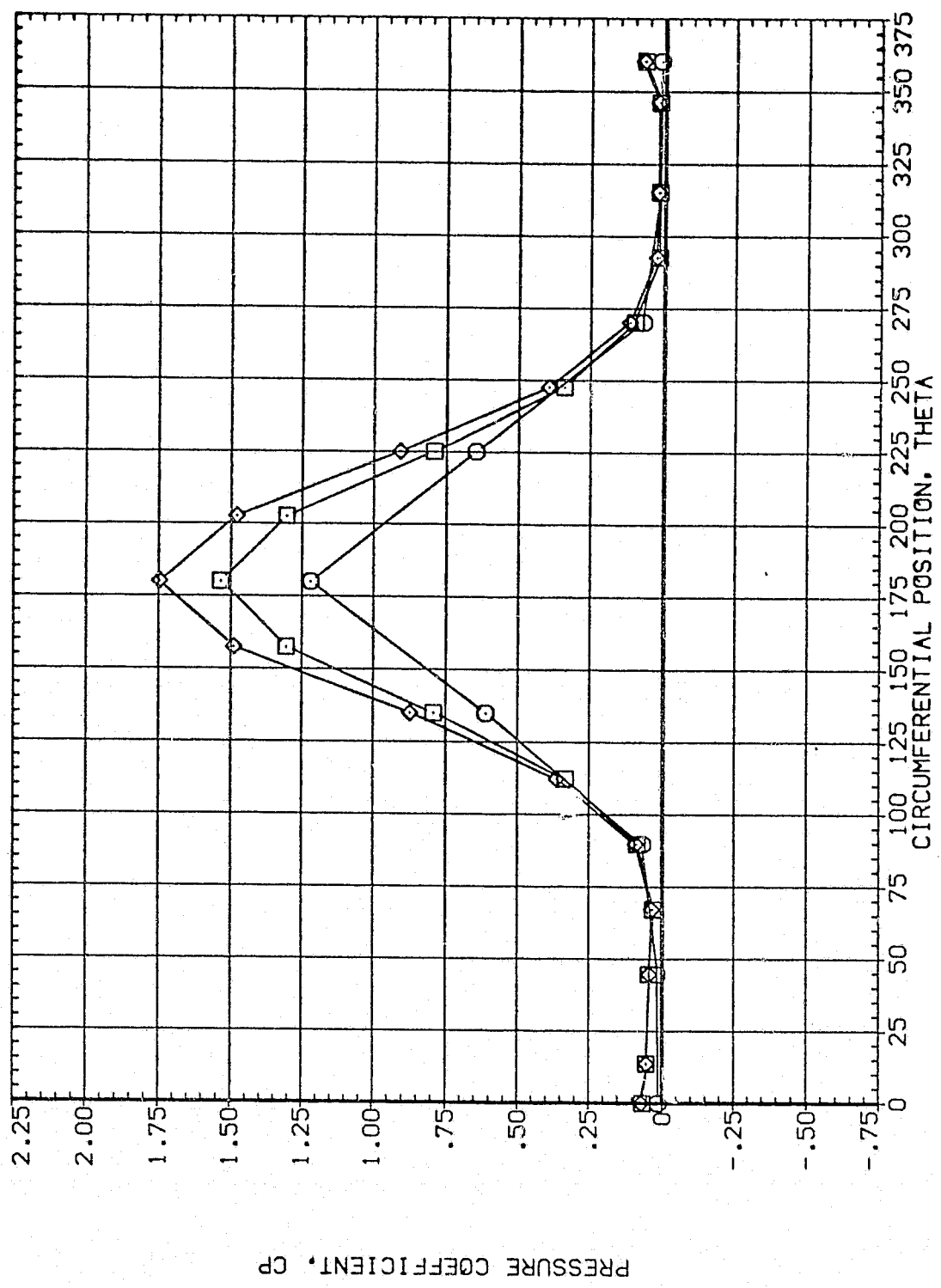


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
□	.216	91.850	4.960	MOUNT	.000
◇	.322			PHI	.000
	.518				

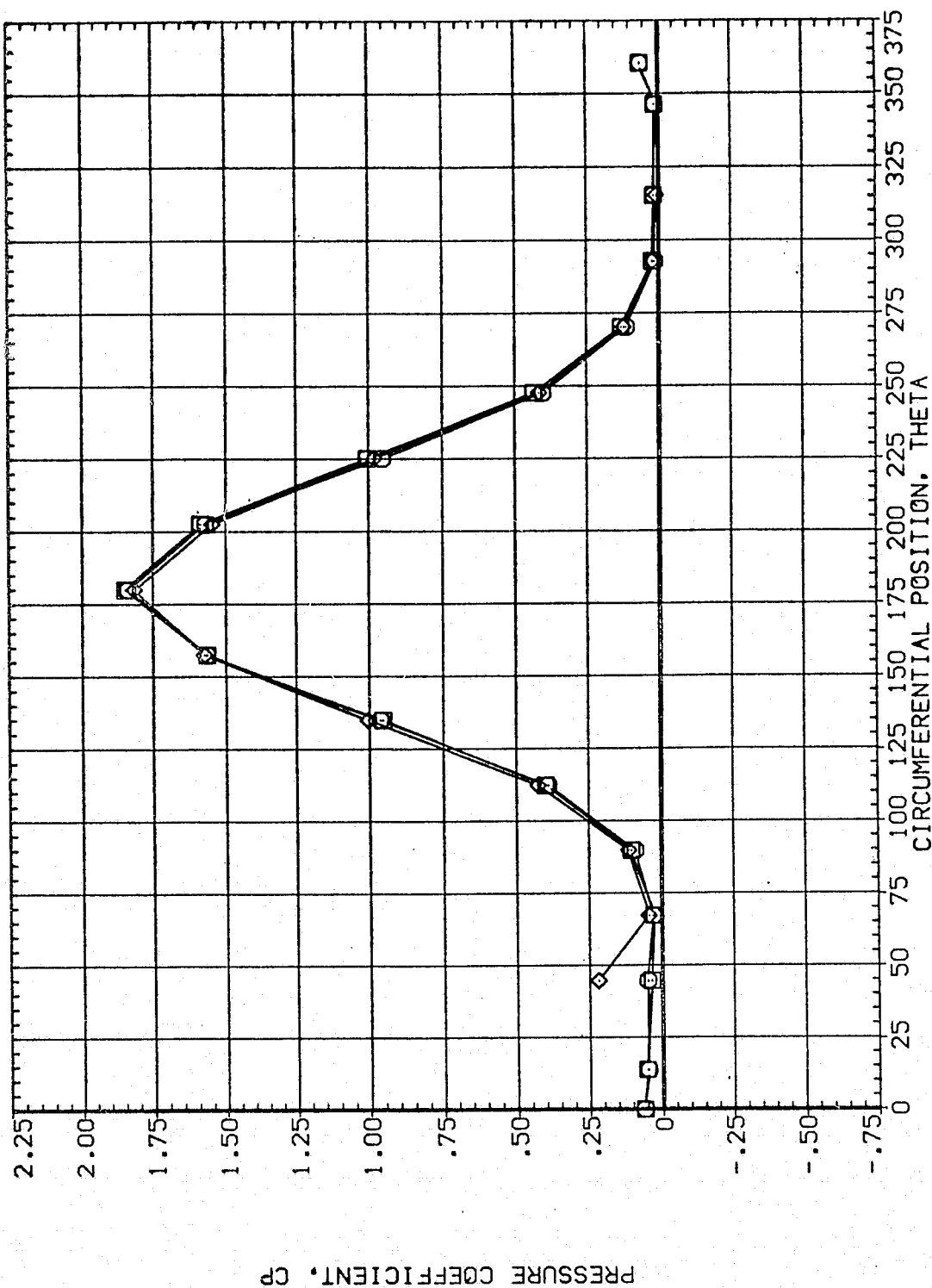


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A077)

SYMBOL  
□  
◇

X/LB  
.610  
.735  
.860

ALPHA  
91.850

MACH  
4.960

PARAMETRIC VALUES  
BETA  
MOUNT

.000  
2.000

OFFSET  
PHI

90.000  
.000

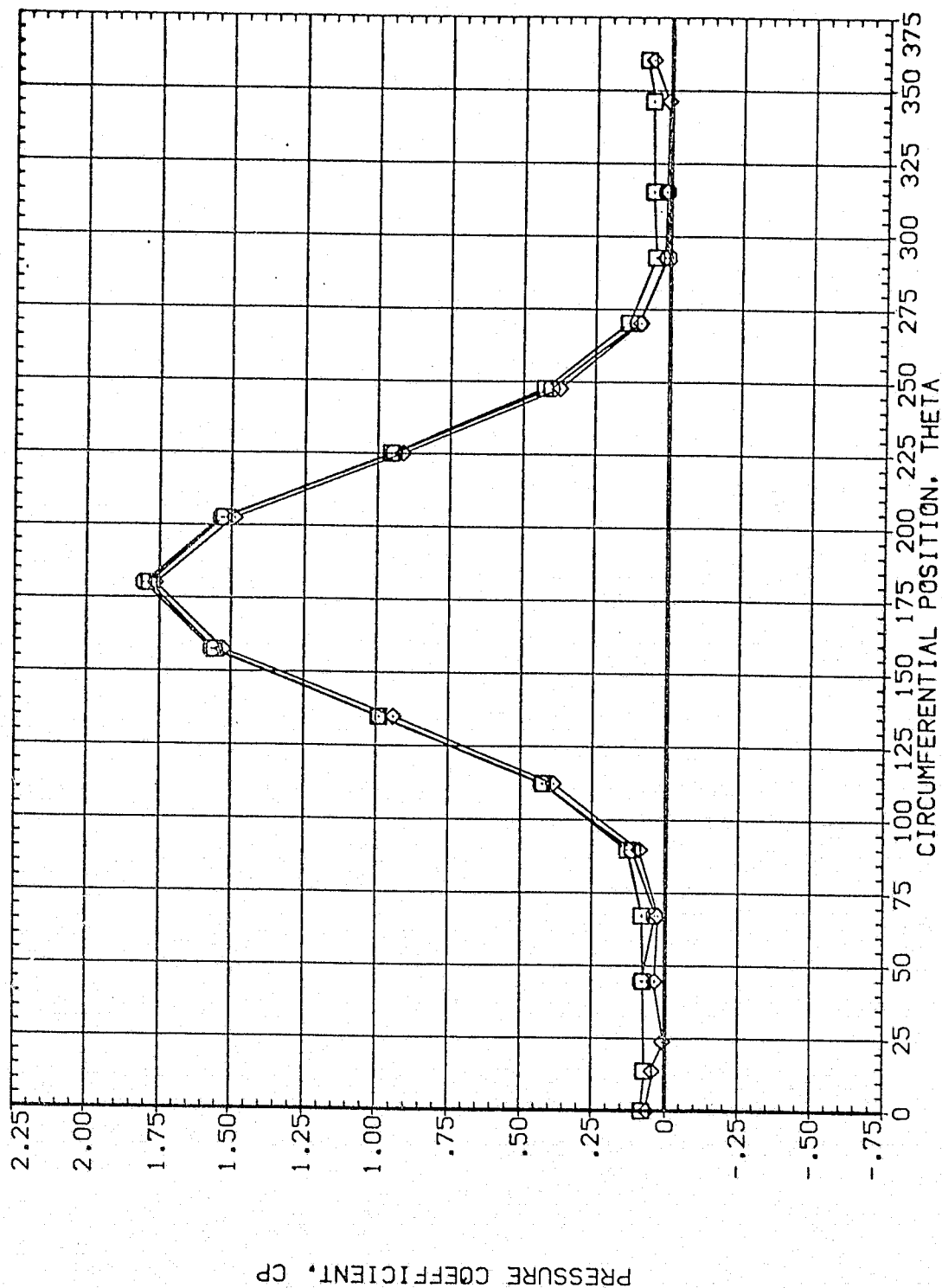


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.892	91.850	4.960	MOUNT	.000 OFFSET
□	.923				2.000 PHI
◇	.954				90.000

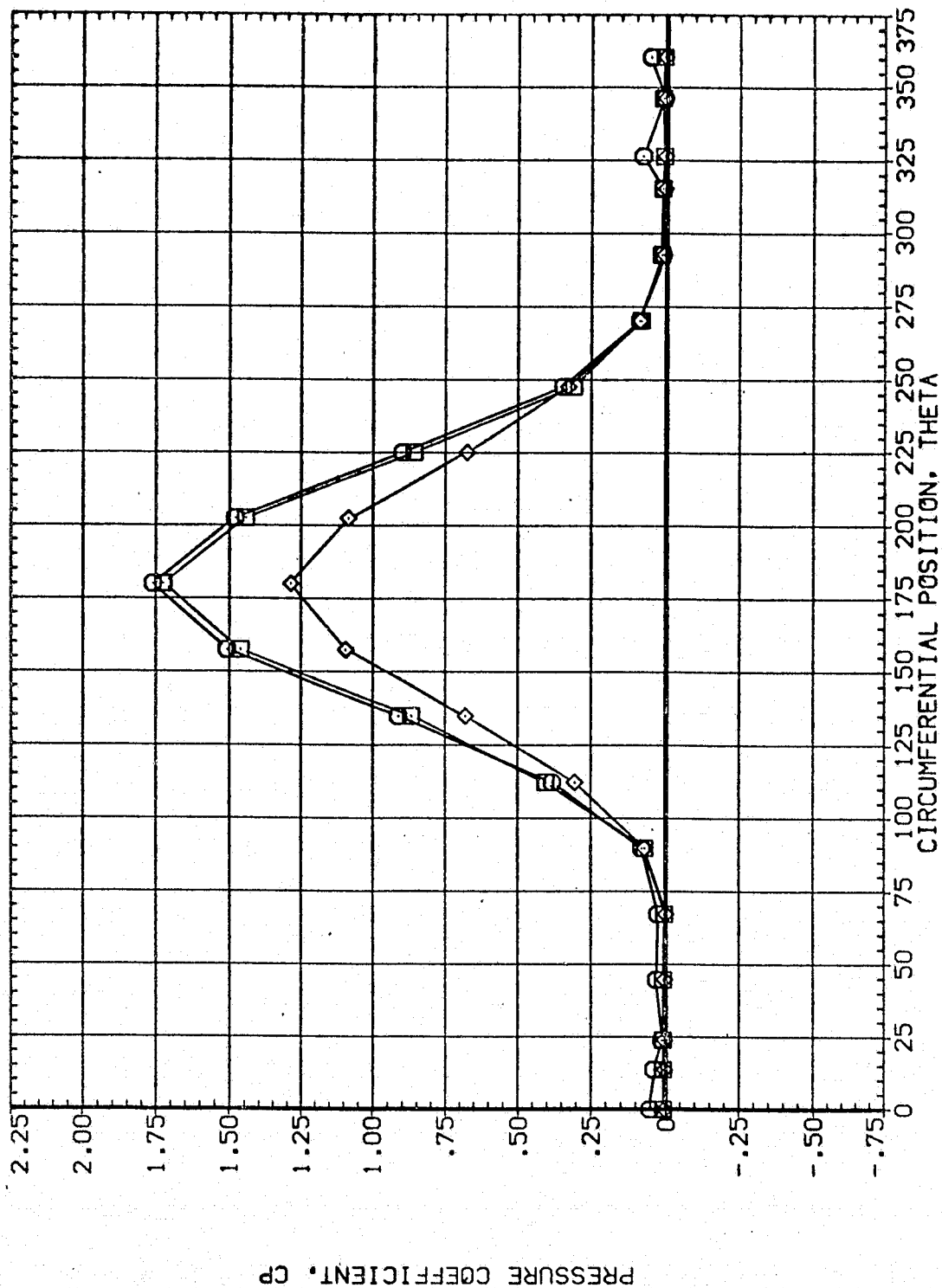


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

PARAMETRIC VALUES  
 .000 .000 90.000  
 .000 .000 .000  
 2.000 PHI

BETA  
 HOUNT

SYMBOL X/LB ALPHA HACH  
 .055 94.850 4.960  
 .108  
 .162

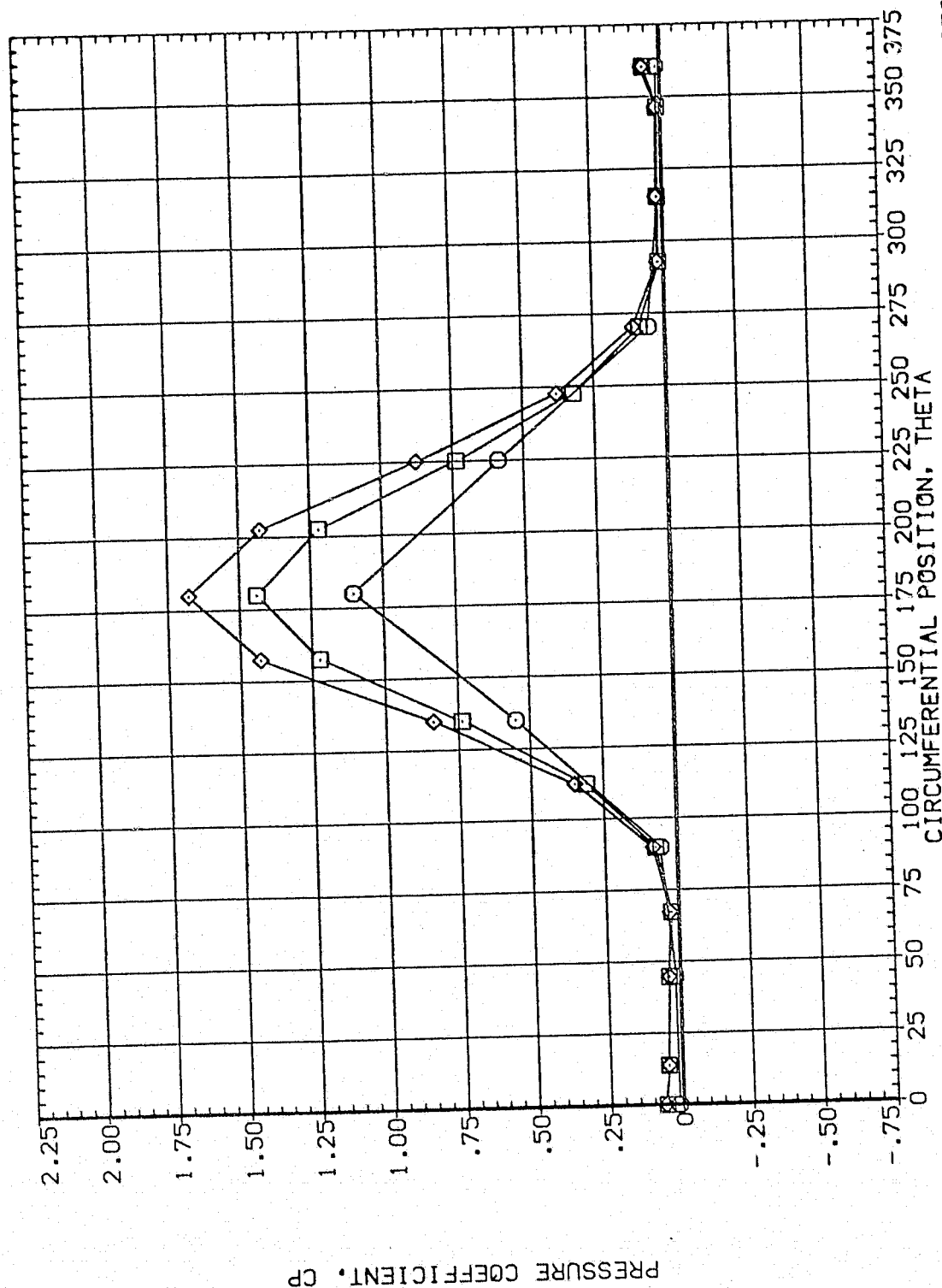


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
 PAGE 2669

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.216	94.850	4.960	MOUNT	.000 OFFSET
□	.322				2.000 PHI
◇	.518				50.000

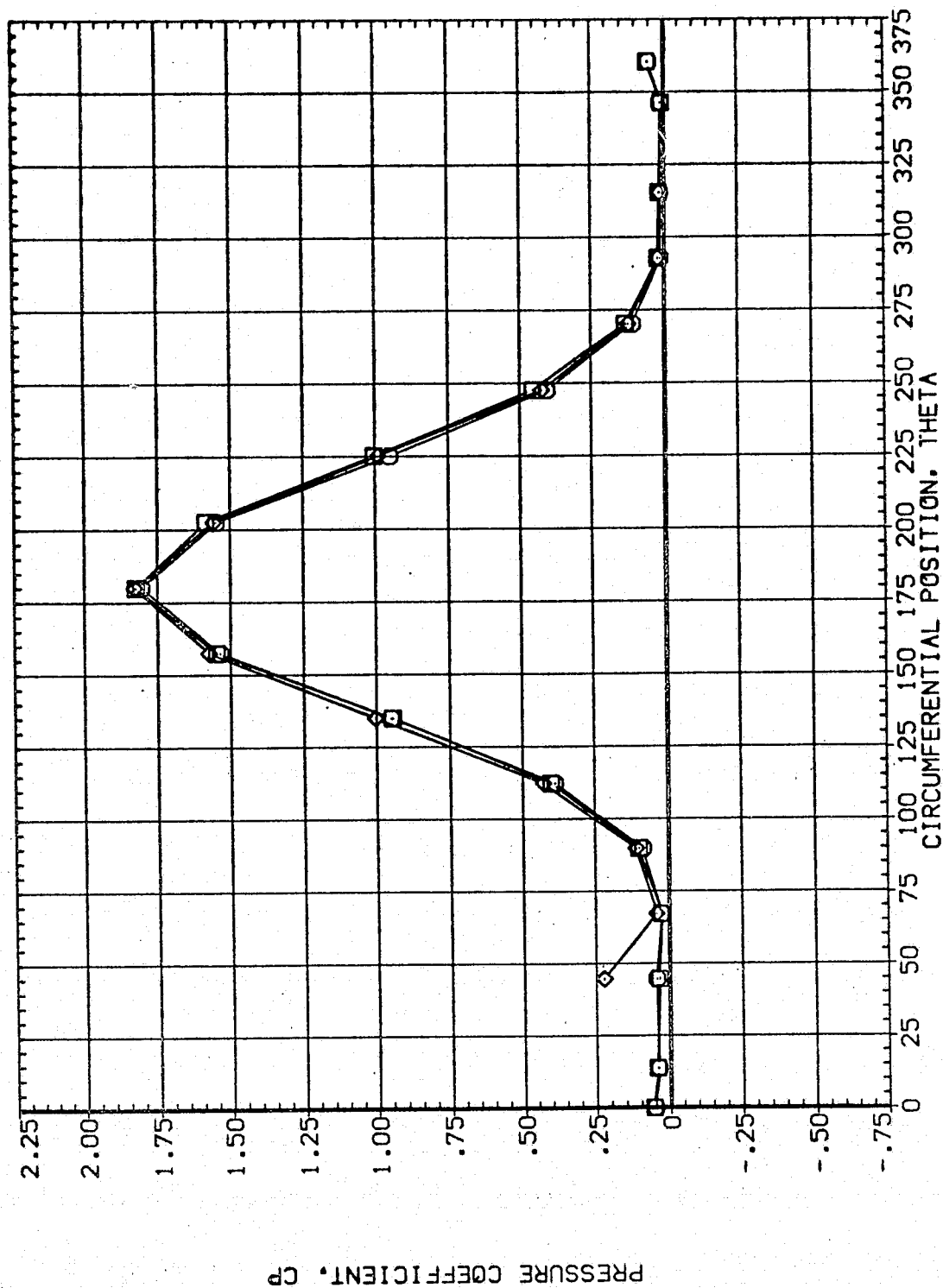


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A078)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA MOUNT	OFFSET PHI	90.000 .000
○	.610	94.850	4.960	2.000		
□	.735					
◇	.860					

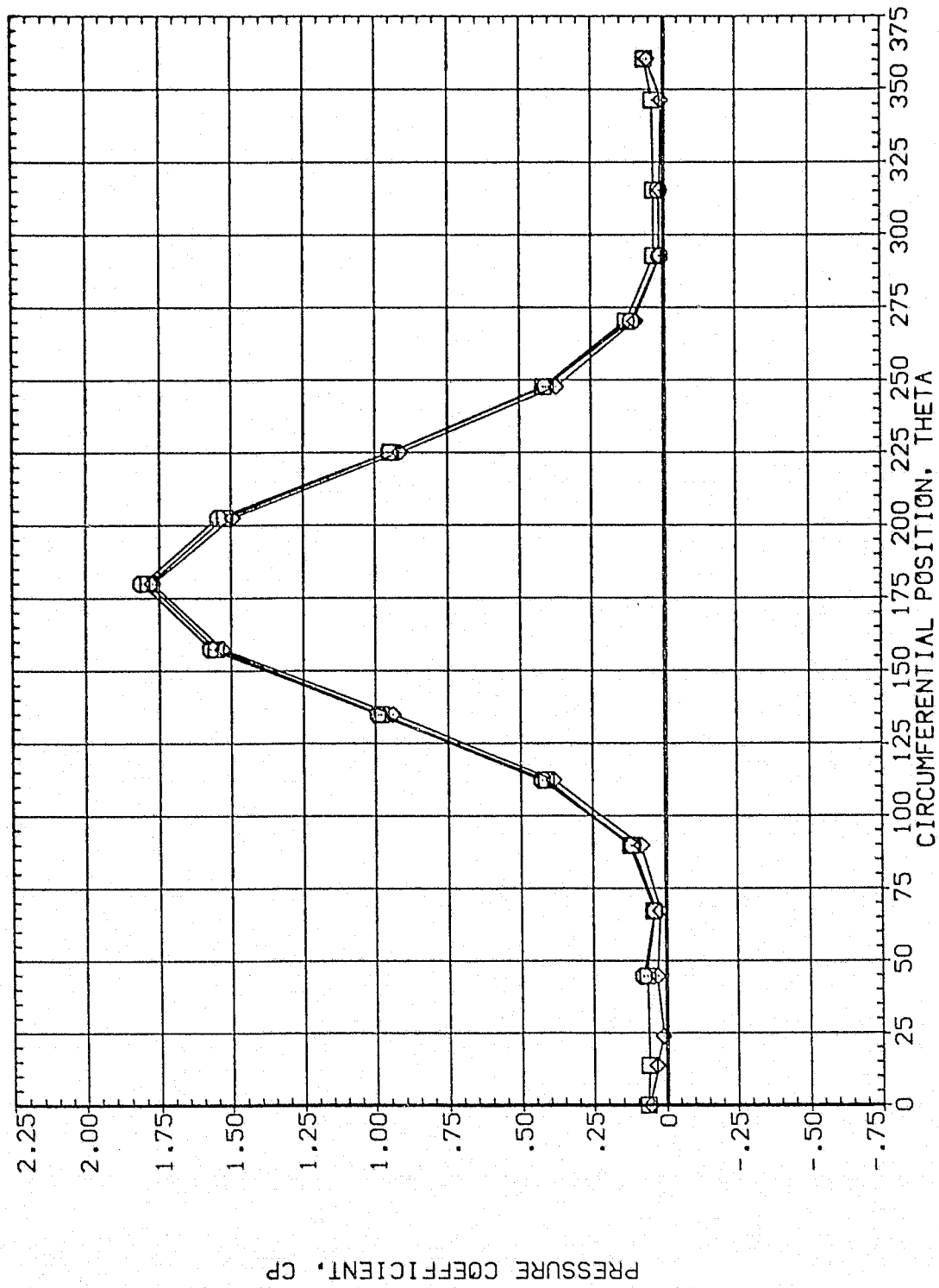


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.892	34.850	4.960		.000	90.000
◇	.923			2.000		.000
◇	.954					

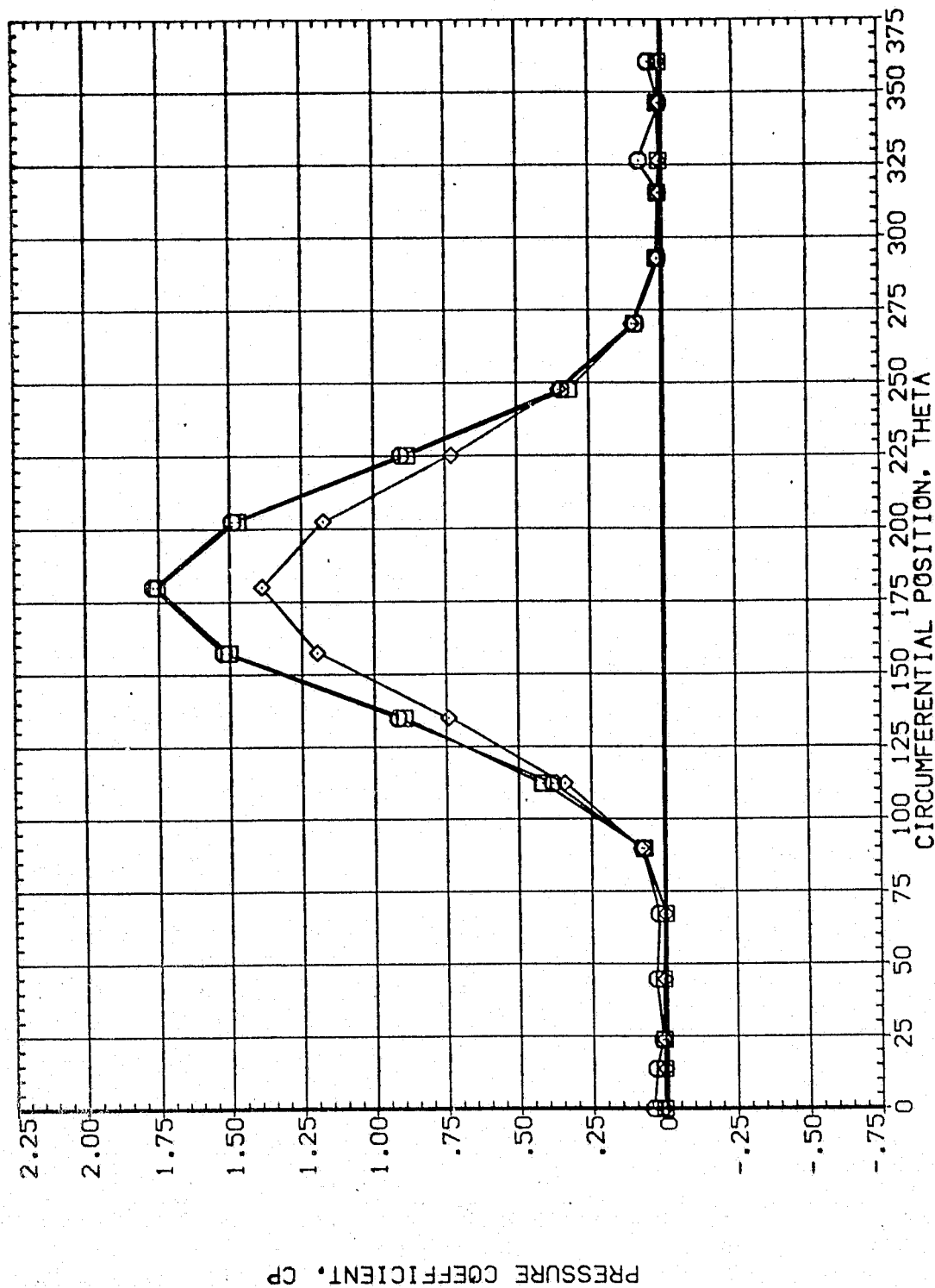


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2672

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES
○	.055	97.830	4.960	BETA .000
□	.108			PHI 2.000
◇	.162			OFFSET 90.000

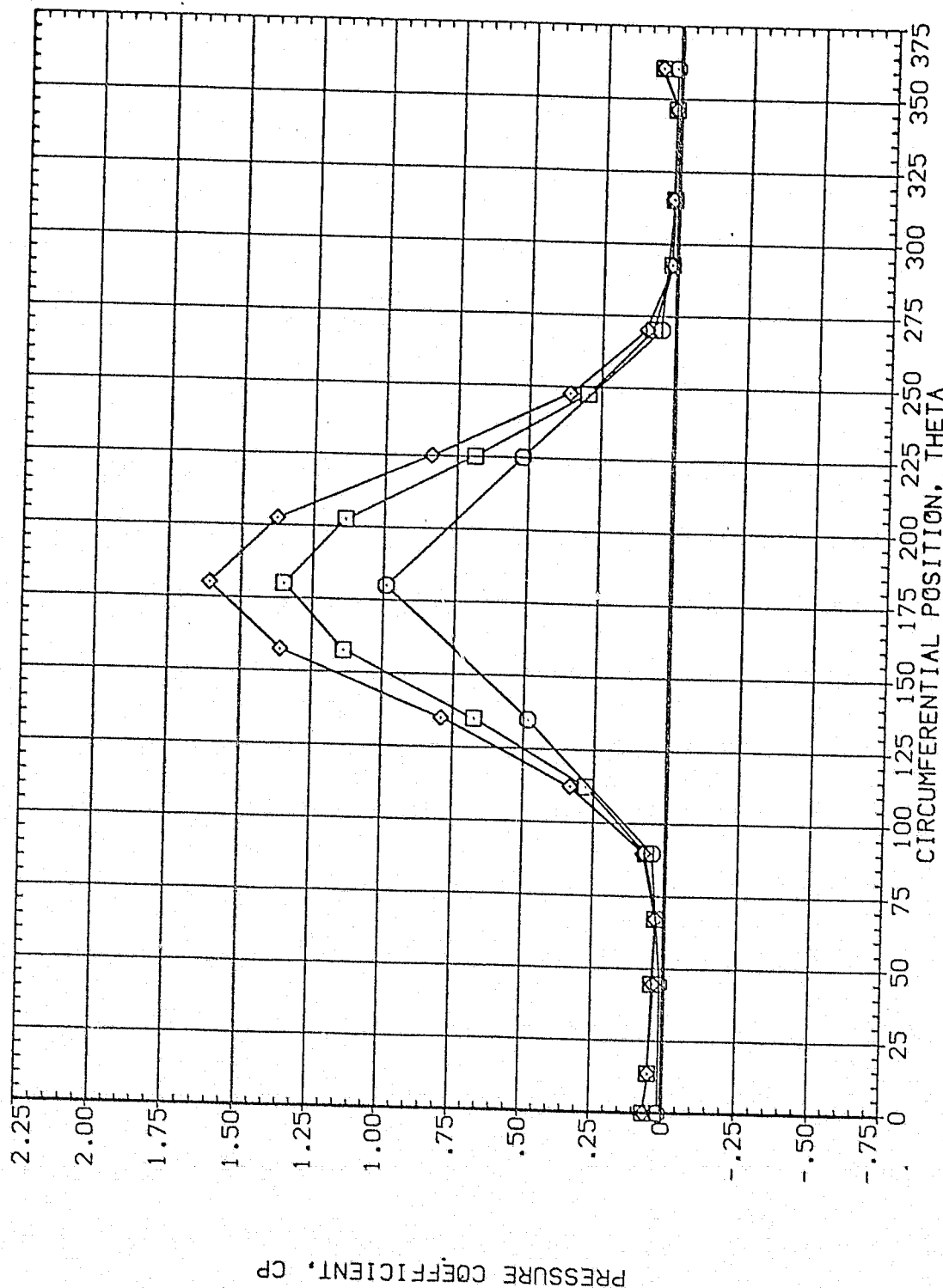


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

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SYMBOL X/LB ALPHA HACH  
 □ .216 97.830 4.960  
 ◇ .322 .518

PARAMETRIC VALUES  
 BETA .000 OFFSET 90.000  
 MOUNT 2.000 PHI .000

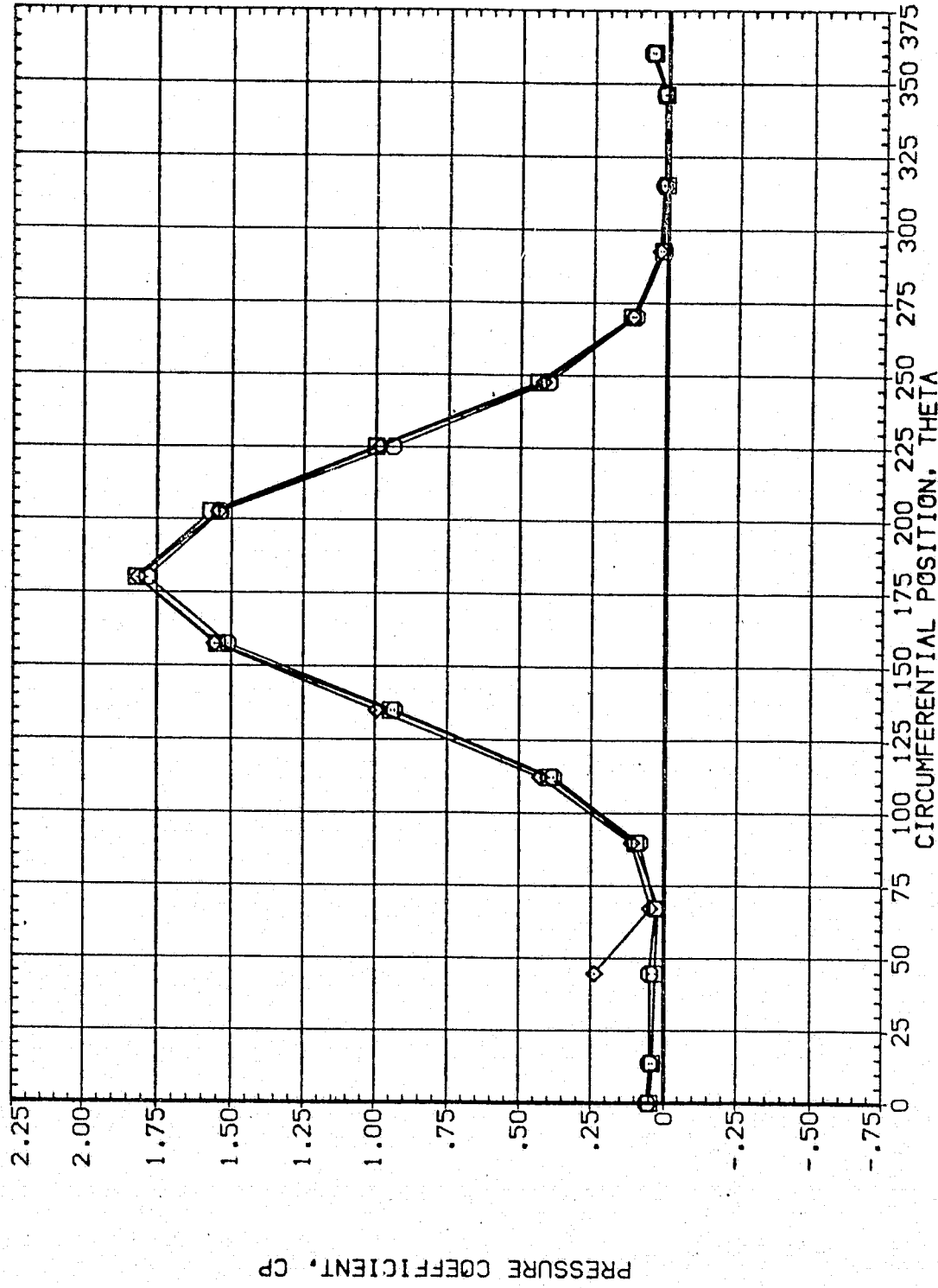


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A079)

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
□	.610	97.830	4.960	HQUNT	.000	.000
◇	.735				2.000	
◇	.860					50.000

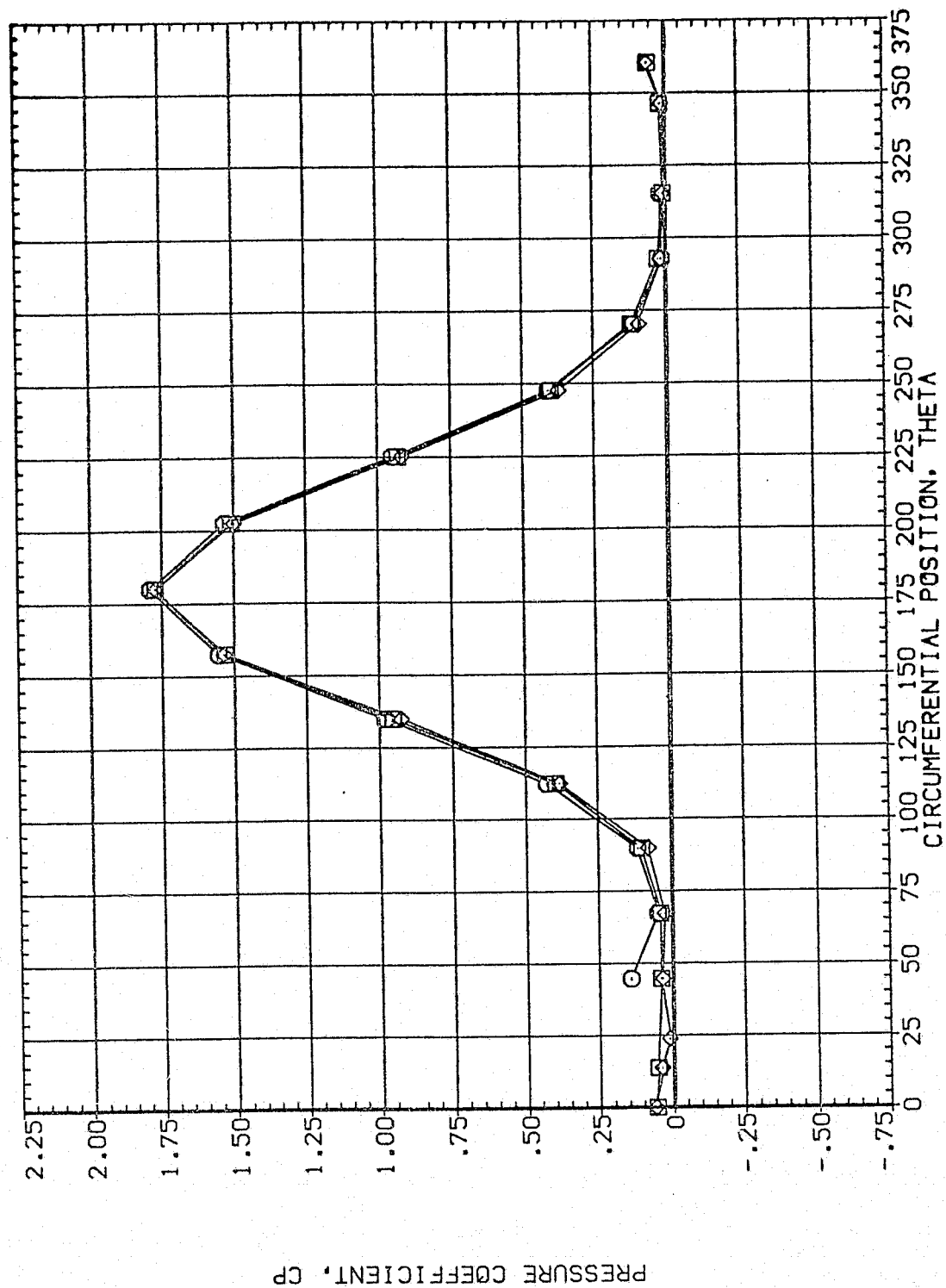


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL	X/LB	ALPHA	MACH	PARAMETRIC VALUES		
				BETA	.000	90.000
				PHI	2.000	.000
				OFFSET		
				MOUNT		

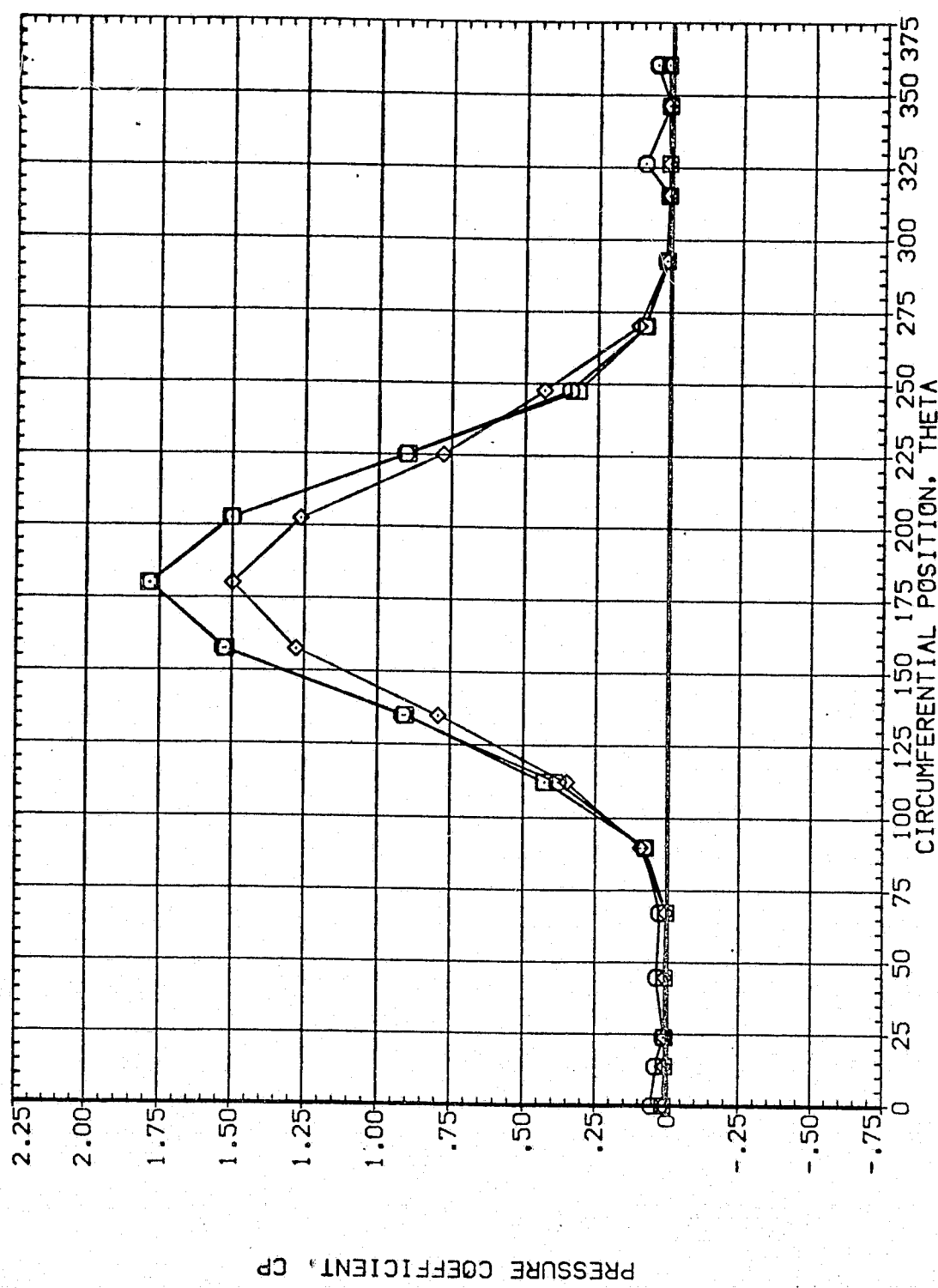


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES  
PAGE 2676

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

SYMBOL	X/LB	ALPHA	HACH	PARAMETRIC VALUES		
				BETA	OFFSET	PHI
○	.055	99.750	4.960	2.000	.000	90.000
□	.108					
◇	.162					

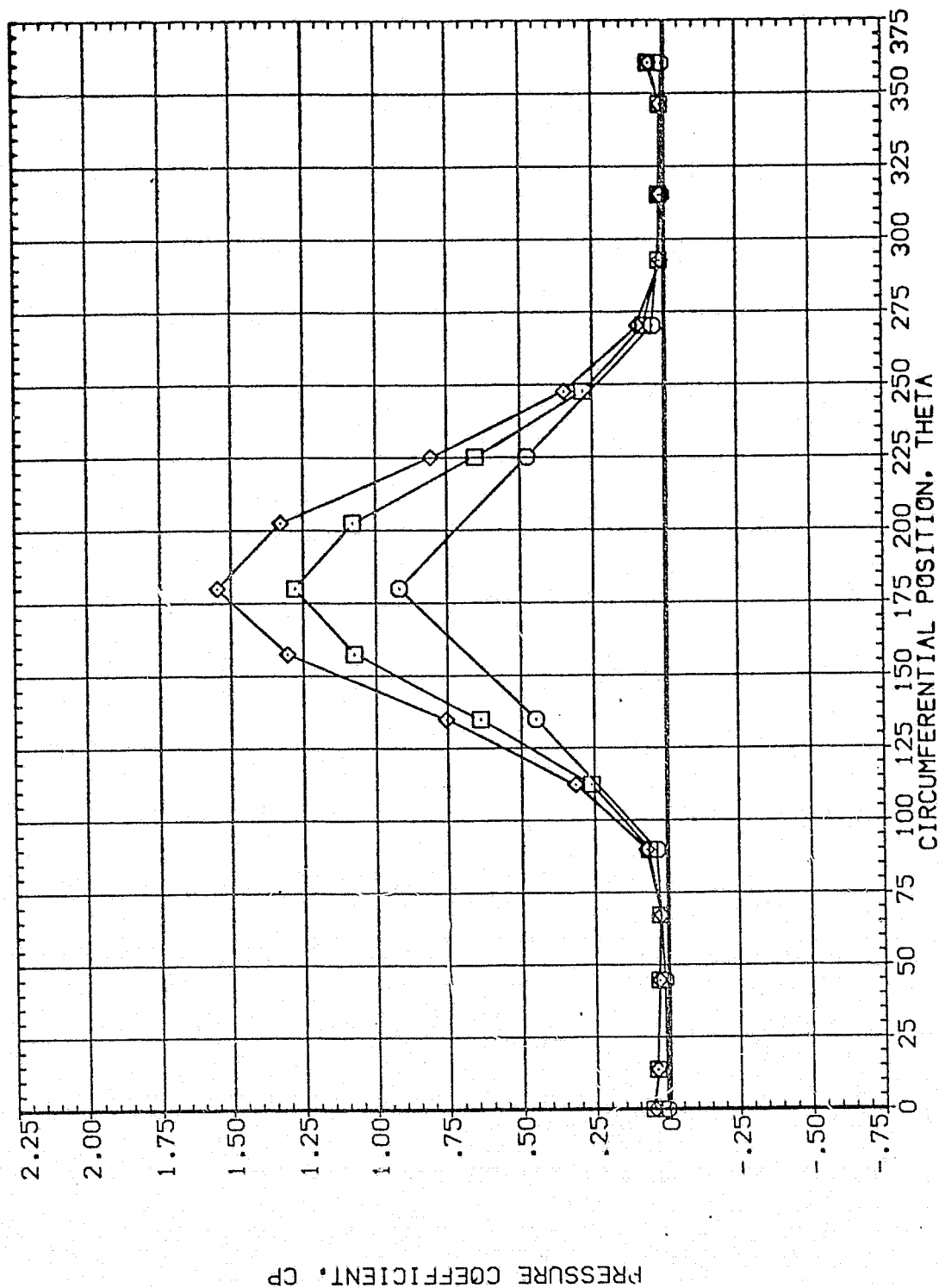


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL	X/LB	ALPHA	MACH	BETA	PARAMETRIC VALUES
○	.216	99.750	4.960	HOUNT	.000
□	.322			OFFSET	2.000
◇	.518			PHI	.000

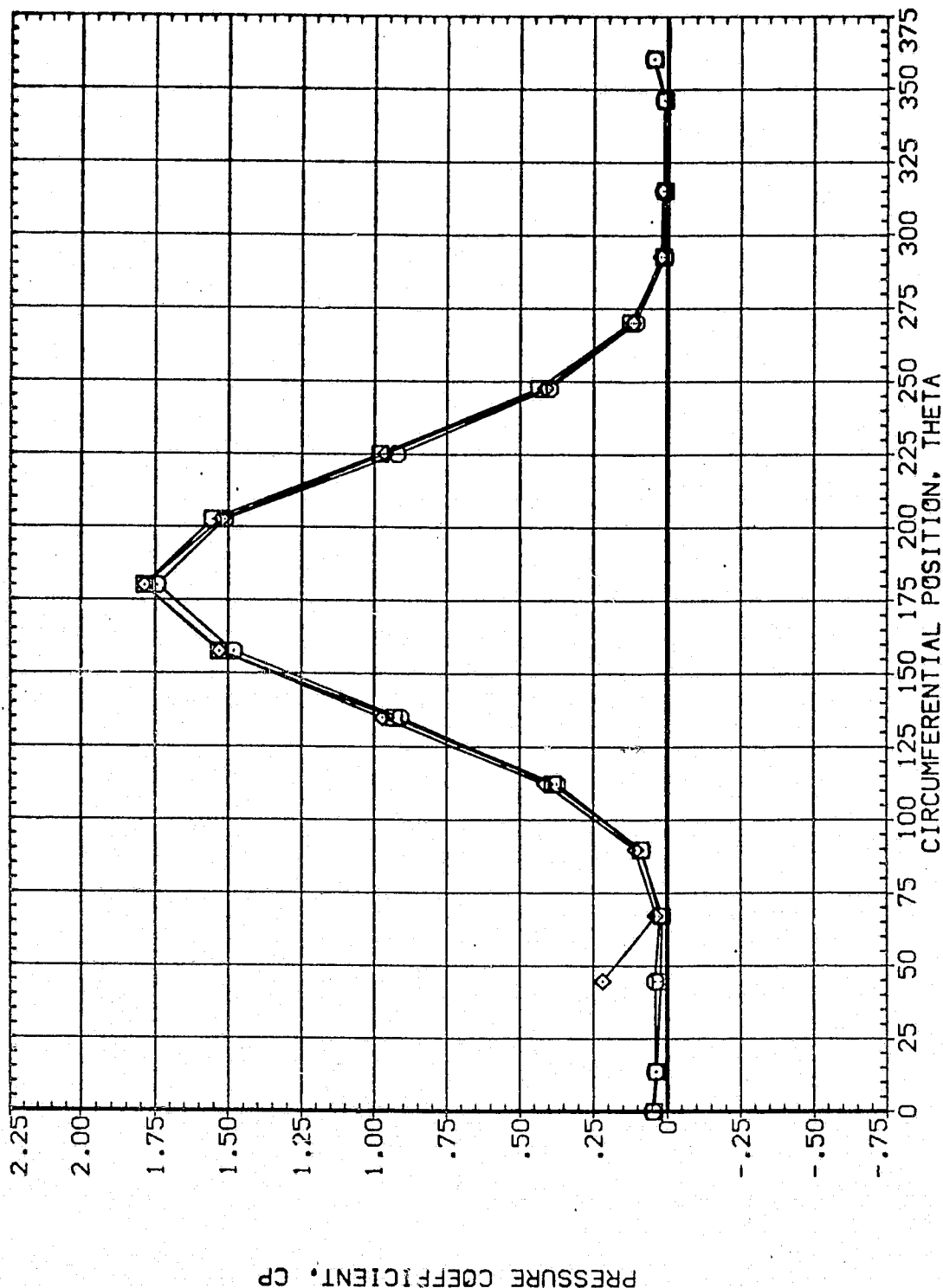


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (P1A080)

PARAMETRIC VALUES  
BETA .000  
HOUNT 2.000  
PHI 90.000  
OFFSET .000

SYMBOL X/LB ALPHA MACH  
◇ .610 99.750 4.960  
□ .735  
◇ .860

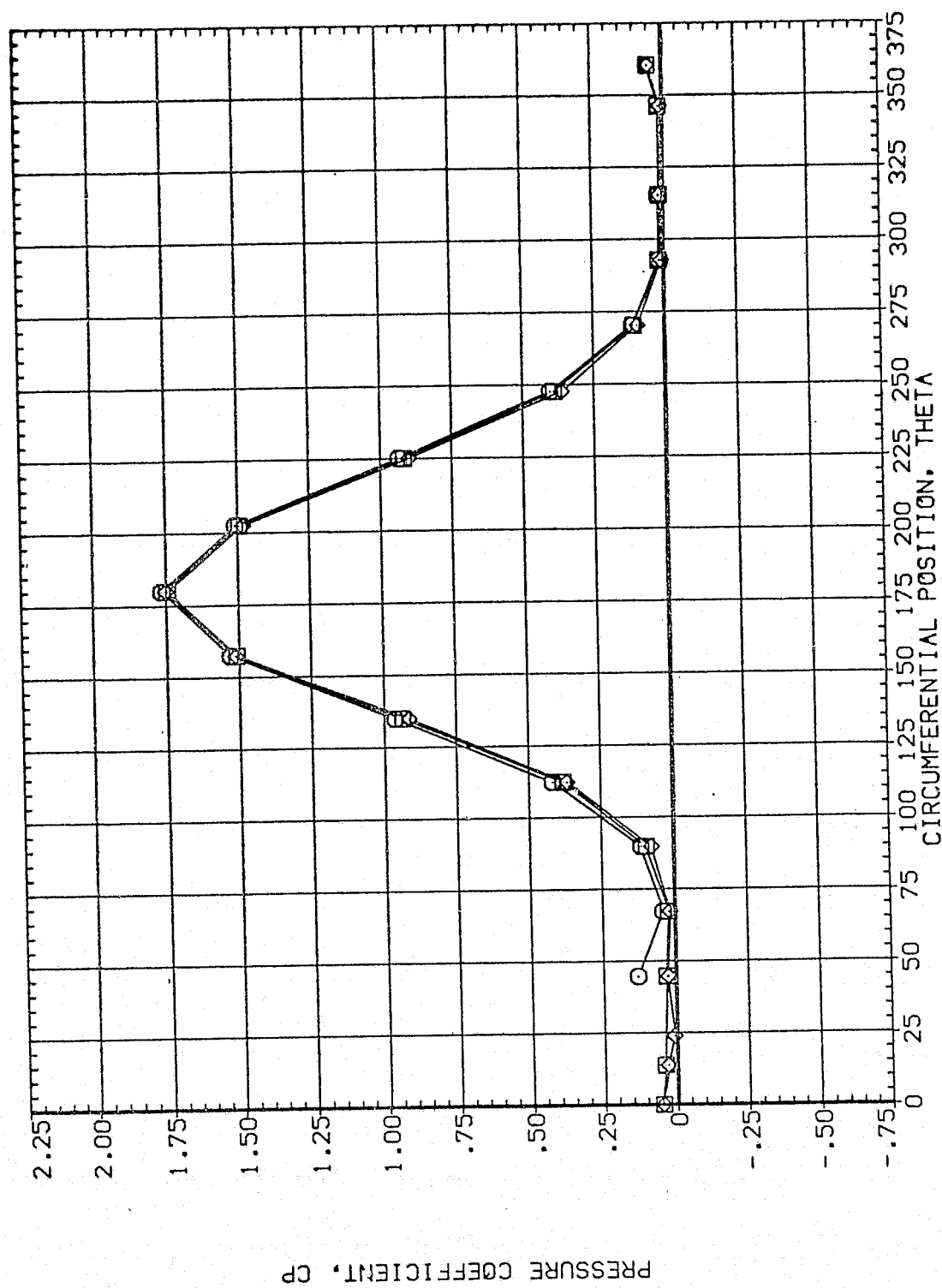


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

SYMBOL X/LB ALPHA MACH  
 ○ .892 99.750 4.980  
 □ .923  
 ◇ .554

PARAMETRIC VALUES  
 BETA .000  
 HOUNT 2.000  
 OFFSET PHI 90.000  
 .000

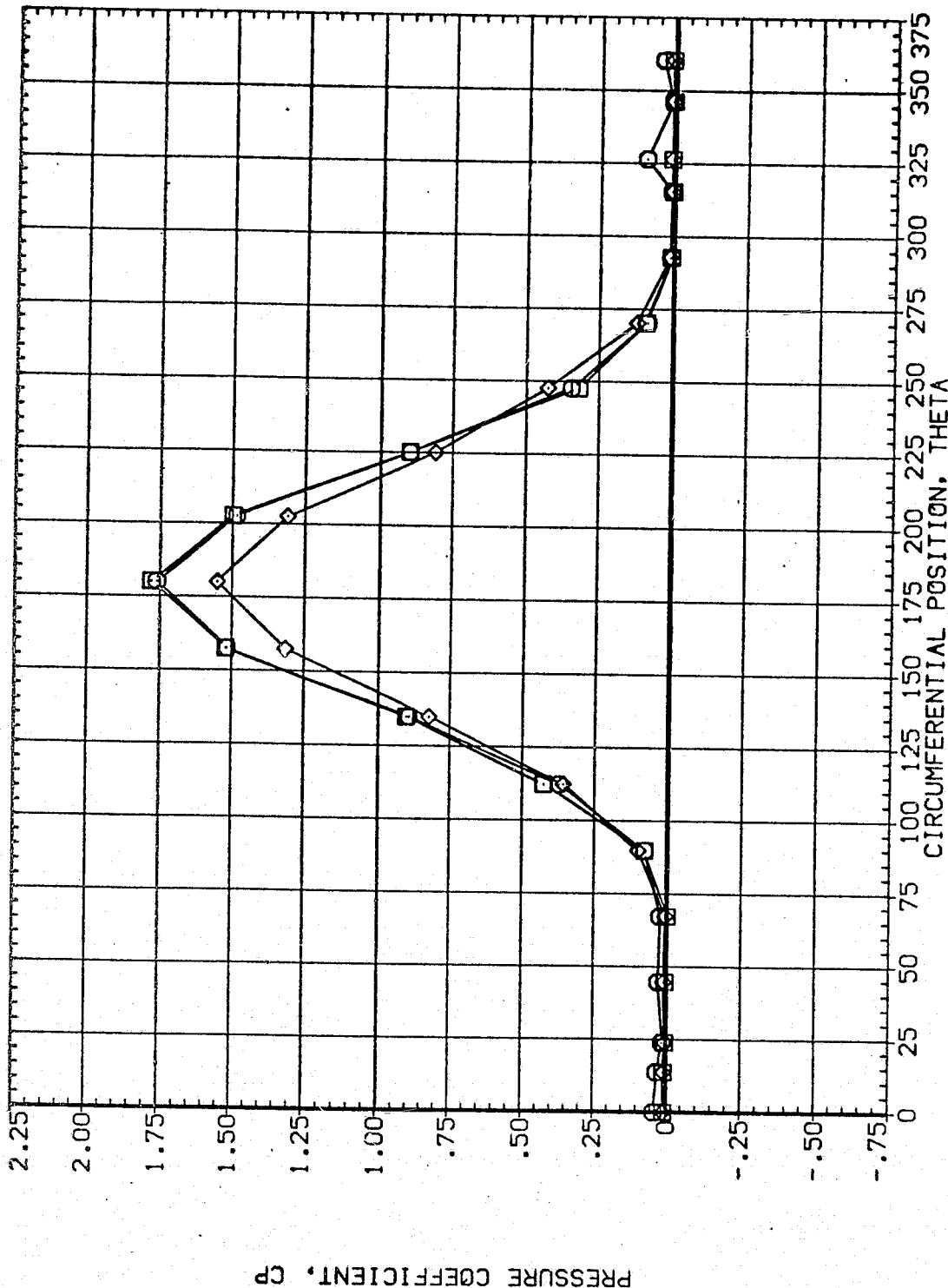


FIG. 9 CIRCUMFERENTIAL PRESSURE DISTRIBUTION OVER ET - T2 WITHOUT PROTUBERANCES

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (A1AX61)

SYMBOL  
 ○  
 □  
 ◇  
 △

ALPHA  
 51.110  
 54.110  
 57.110  
 60.130  
 63.130

PARAMETRIC VALUES  
 BETA  
 PHI  
 .000  
 .000  
 MOUNT

2.000

REFERENCE INFORMATION  
 SREF 572.5550 SO. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 IN. XT  
 XMRP 1086.4000 IN. YT  
 YMRP .0000 IN. ZT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

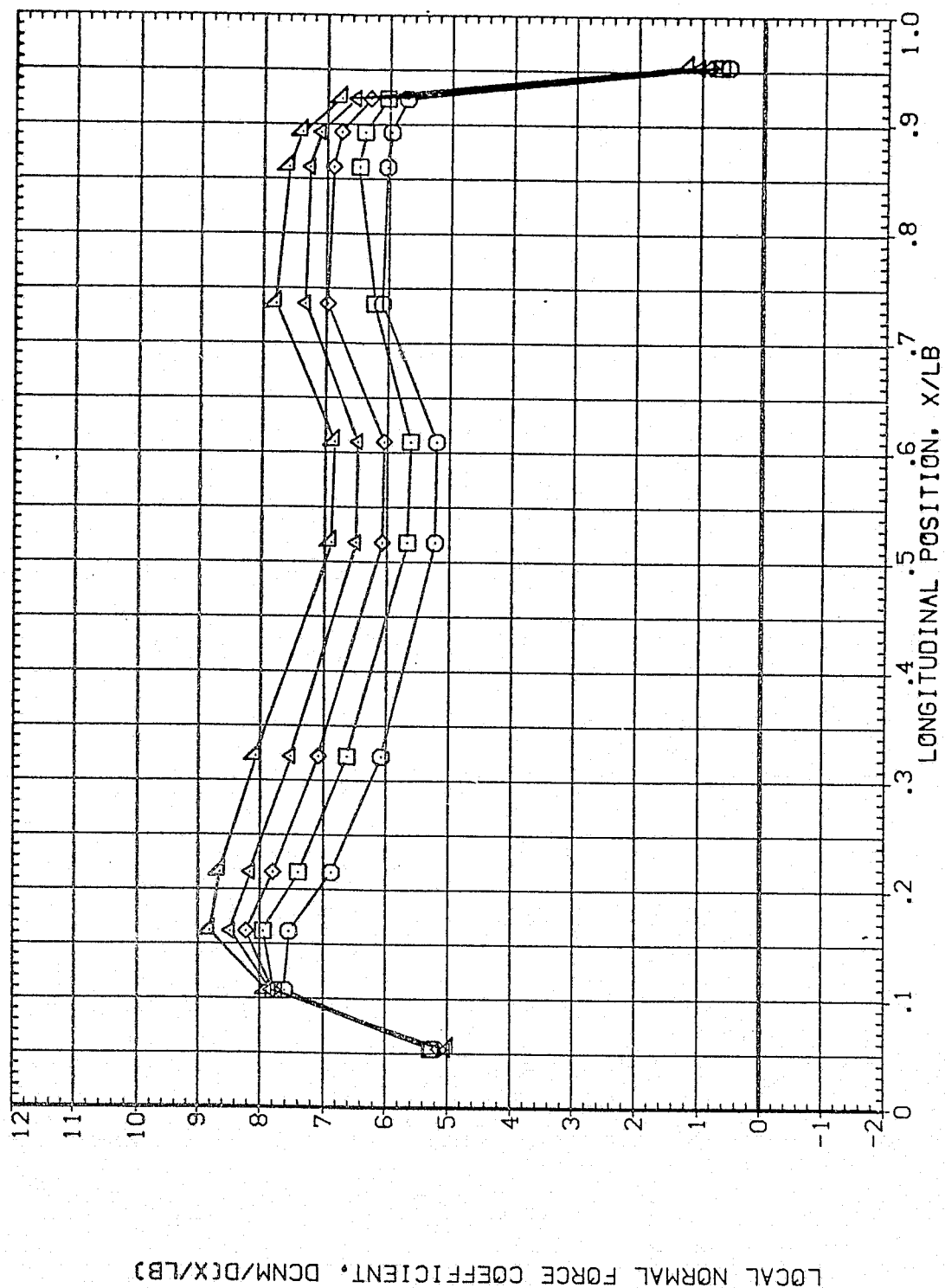


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 1.96

SYMBOL  
 ○ □ ◇ △ ▽

ALPHA  
 65.130  
 69.130  
 69.960  
 71.980  
 74.860

BETA  
 .000  
 .000

PARAMETRIC VALUES  
 MOUNT 2.000

REFERENCE INFORMATION  
 SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP .0000  
 ZMRP 400.0000  
 SCALE .0030

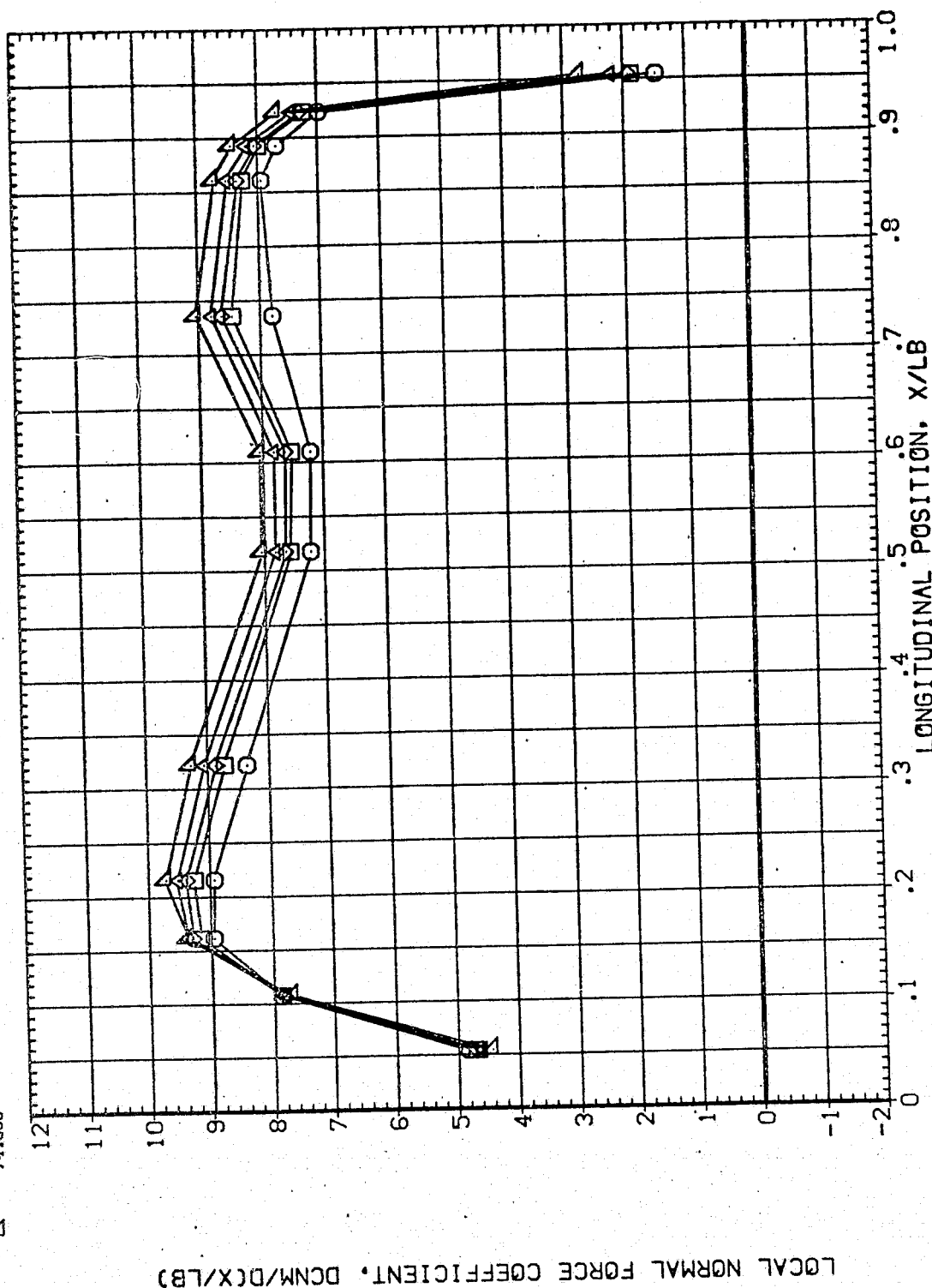


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 1.96

[A1AX61]

SYMBOL

**ALPHA**

**BETA**

PHI

### PARAMETRIC VALUES

**MOUNT**

1

2,000

100

REFERENCE INFORMATION

572.5550

324.0000

324.0000

086-4000  
0000

400.0000  
0.0000

400.0000  
.0030

13.65

INCHES

INCHES

IX. XT  
IN. YN

22

17. NT

LOCAL NORMAL FORCE COEFFICIENT,  $DCNM/DCX/LB$

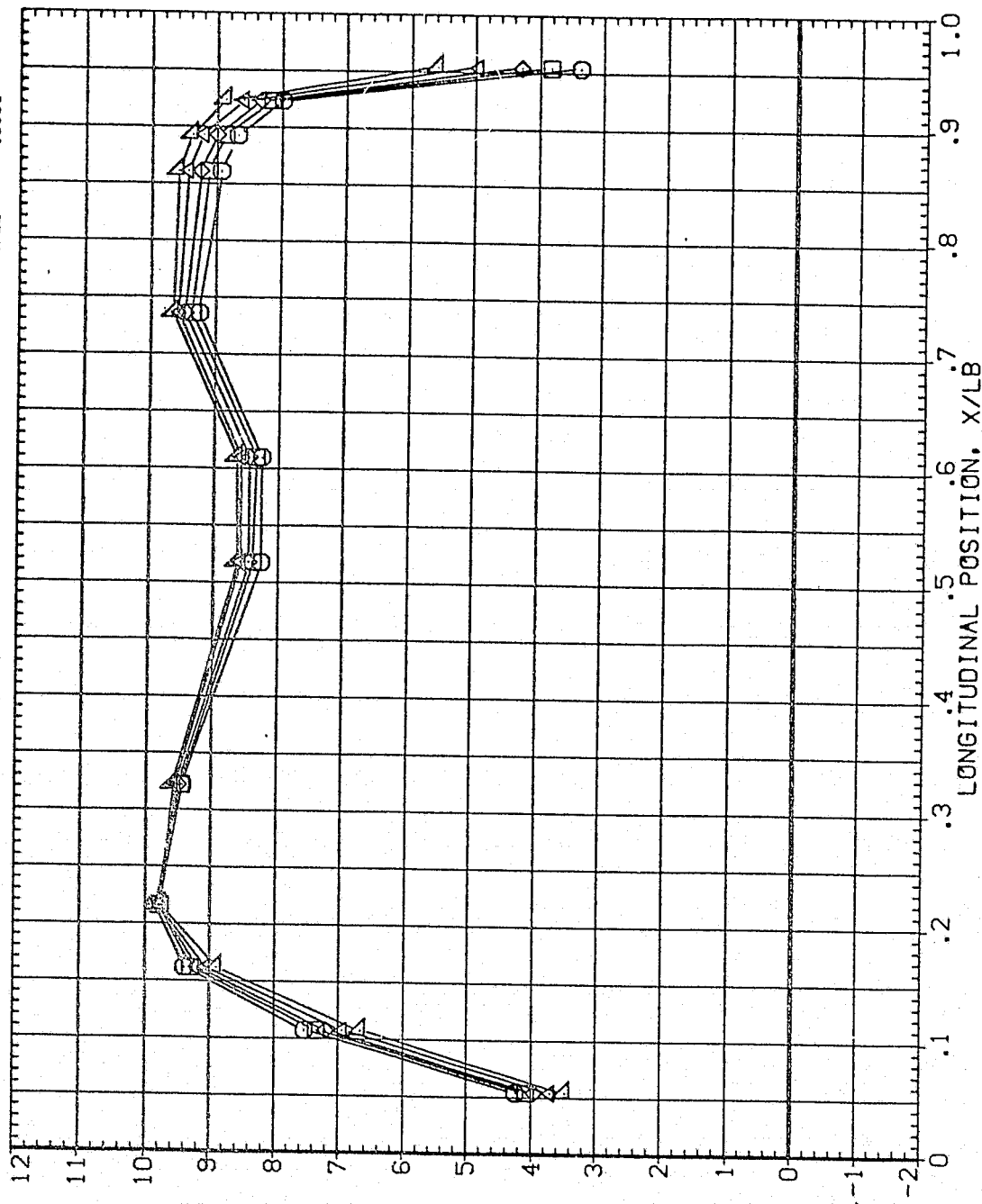


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTRUSANCES

$$CA)MACH = 1.96$$

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (A1AX61)

SYMBOL		PARAMETRIC VALUES		REFERENCE INFORMATION	
□	ALPHA	BETA	HEIGHT	SREF	572.5530
◇	91.830	PHI	.000	LREF	324.0000
△	94.850		.000	BREF	324.0000
▽	97.850			XHRP	1086.4000
△	99.730			YHRP	400.0000
				ZHRP	400.0000
				SCALE	.0030

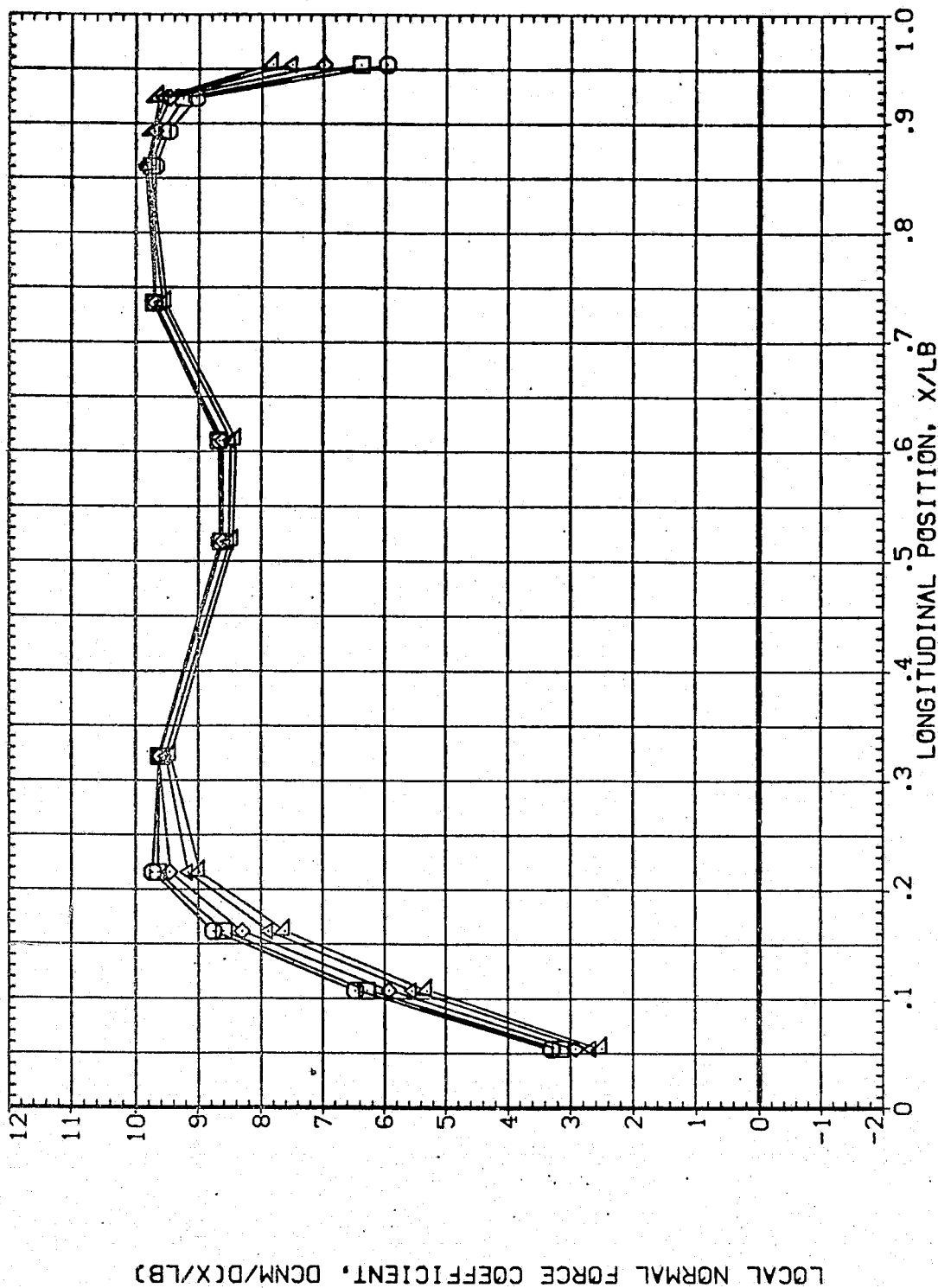


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 1.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (N1A061)

SYMBOL	ALPHA	BETA	PHI	PARAMETRIC VALUES	REFERENCE INFORMATION
○	51.000	.000	.000	2.000	SREF 572.5530
□	54.130	.000	.000		LREF 324.0000
◇	57.130				BREF 324.0000
△	60.130				XMRP 1086.4000
▽	63.130				YMRP .0000
					ZMRP 400.0000
					SCALE .0030

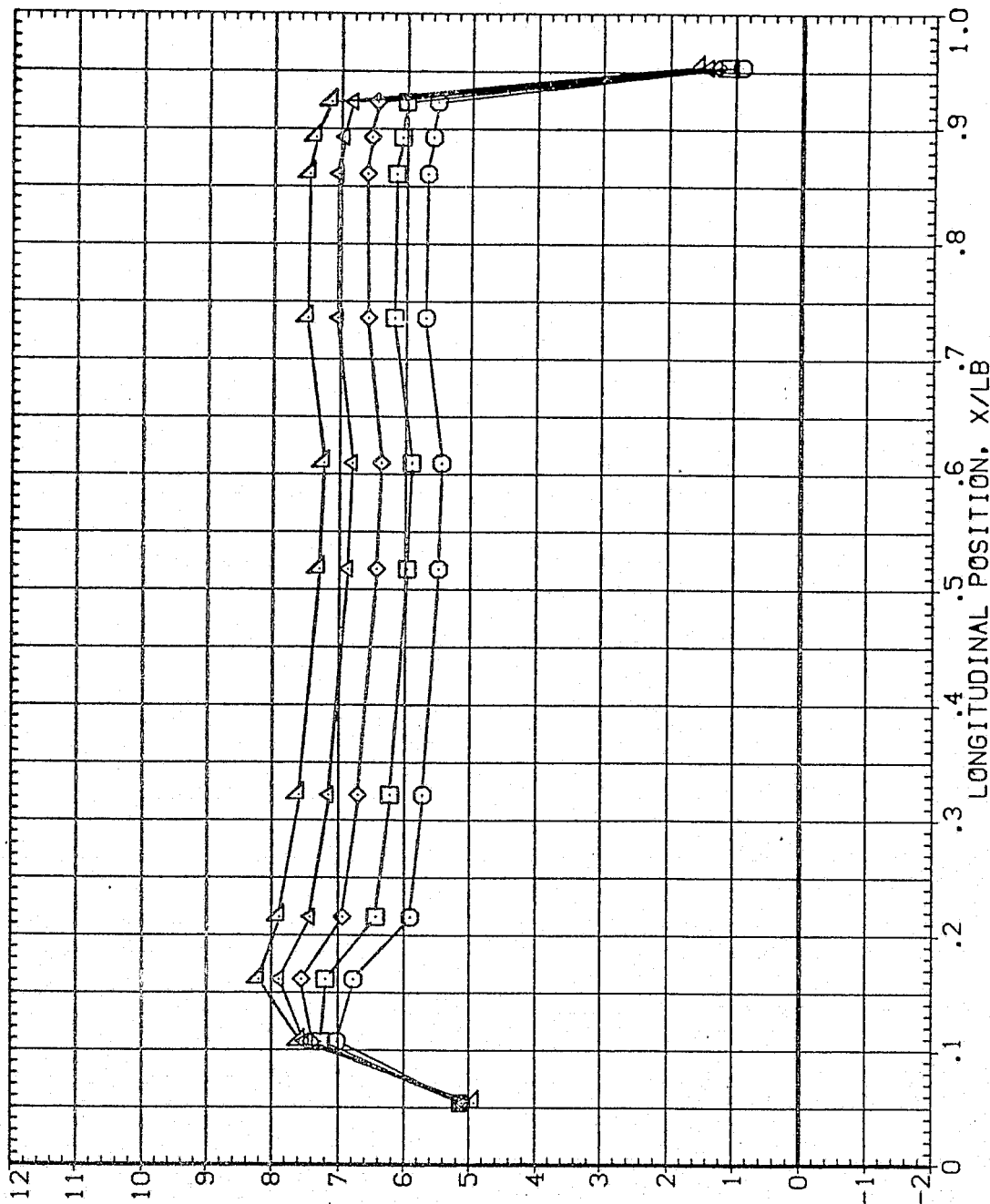


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 3.48

SYMBOL  
 ○ □ ◇ △

ALPHA  
 66.130  
 69.130  
 69.980  
 71.880  
 74.860

PARAMETRIC VALUES  
 BETA  
 .000  
 .000  
 .000

PHI  
 2.000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

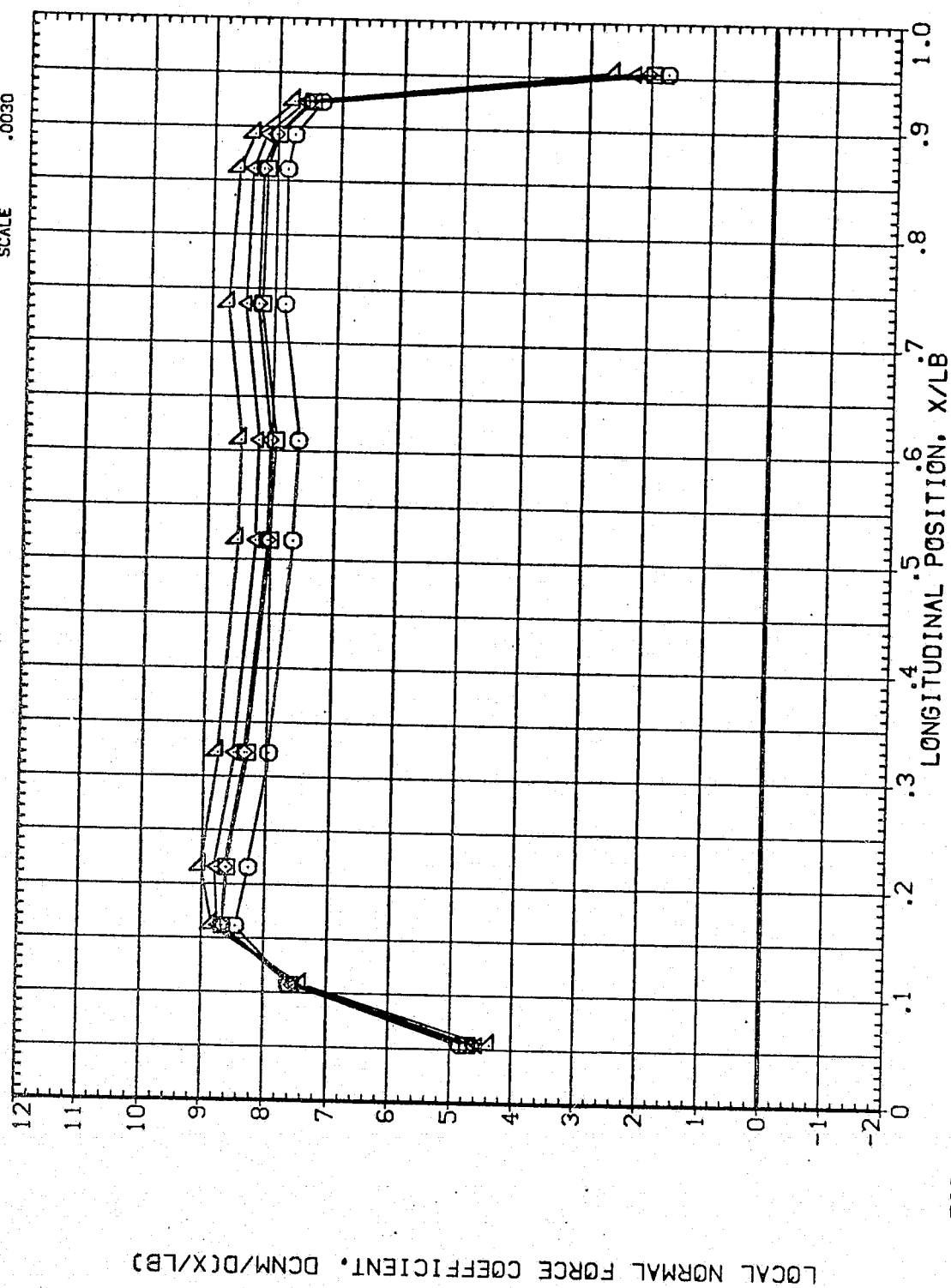


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

CA/MACH = 3.48



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (N1A061)

SYMBOL	ALPHA	BETA	PHI	PARAMETRIC VALUES	REFERENCE INFORMATION
□	77.880	.000	.000	2.000	SREF 572.5550
◇	79.930	.000	.000		LREF 324.0000
△	81.830				BREF 324.0000
▽	84.830				XHRP 1086.4000
	87.830				YHRP 400.0000
					ZHRP 400.0000
					SCALE .0030
					IN. FT
					INCHES
					IN. XT
					IN. YT
					IN. ZT

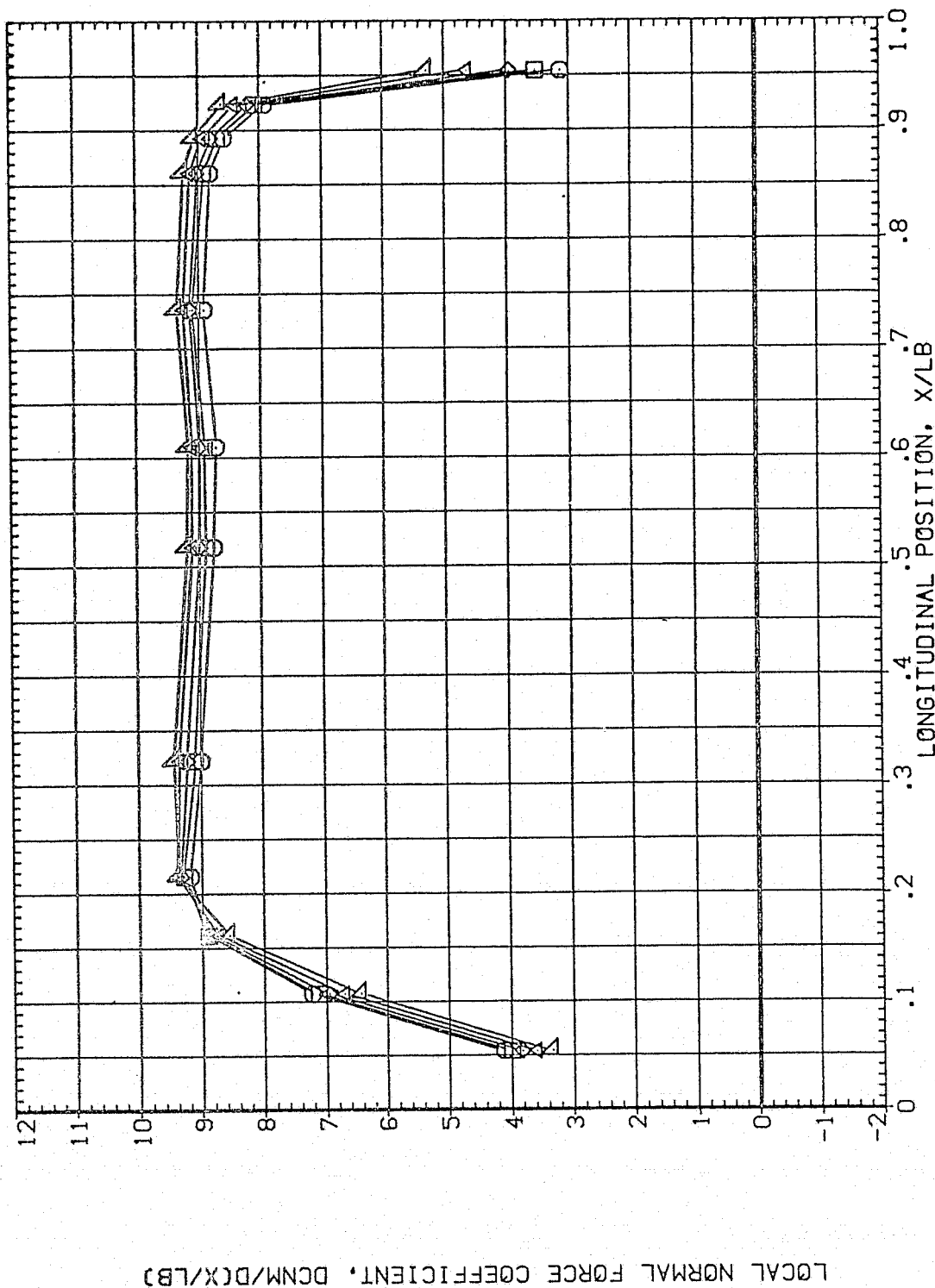


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 3.48

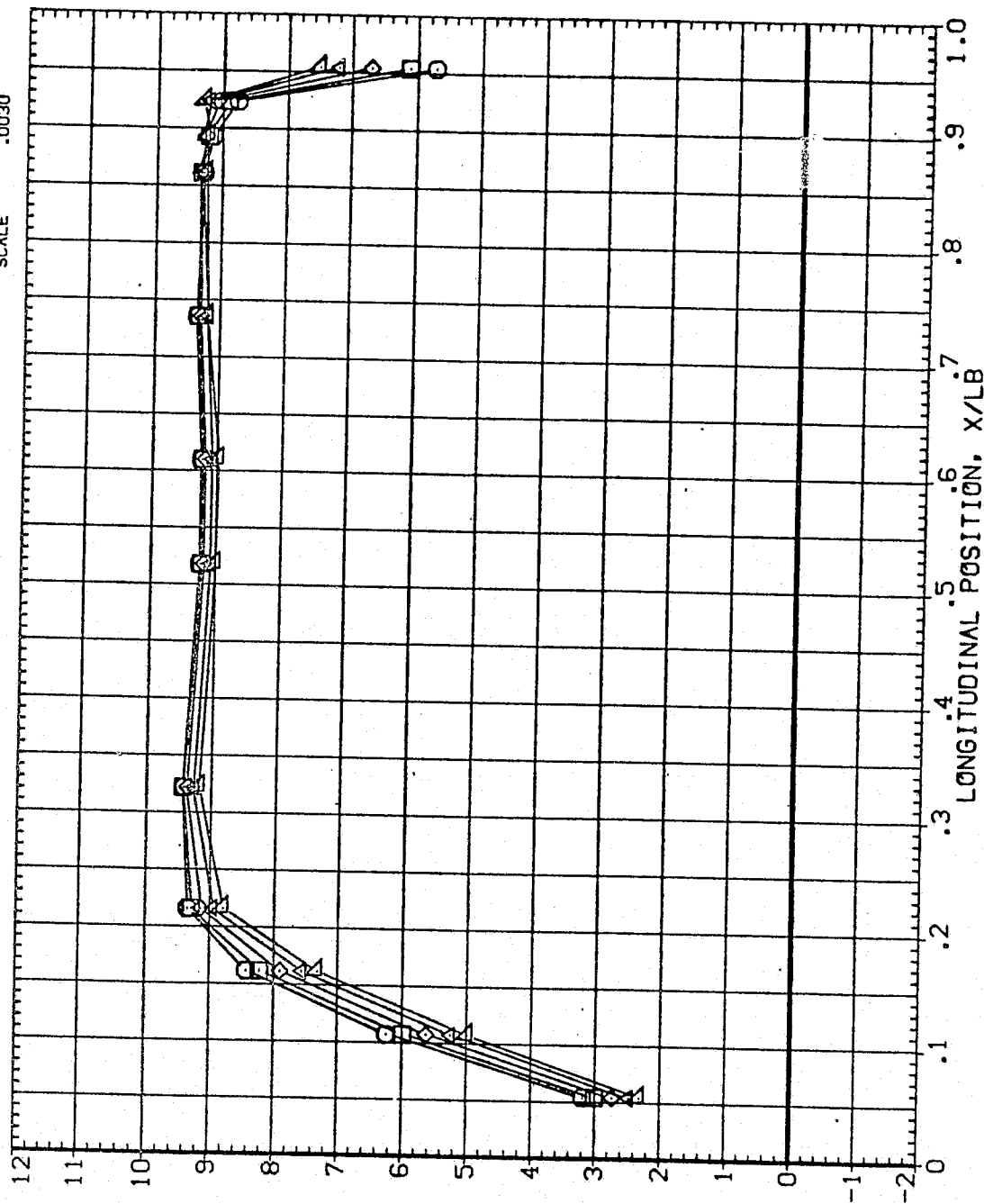
SYMBOL  
○  
□  
◇  
△  
▽

ALPHA  
89.830  
91.850  
94.850  
97.830  
99.750

BETA  
PHI  
PARAMETRIC VALUES  
.000 MOUNT  
.000

2.000

REFERENCE INFORMATION  
SREF 572.5550  
LREF 324.0000  
BREF 324.0000  
XMRP 1086.4000  
YMRP .0000  
ZMRP 400.0000  
SCALE .0030  
SQ. FT  
INCHES  
IN. XT  
IN. YT  
IN. ZT



LOCAL NORMAL FORCE COEFFICIENT, DNM/DC(X/LB)

FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(M)MACH = 3.48

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (M1AX61)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	51.000	PHI	.000	SREF 572.5350
□	54.130		.000	LREF 324.0000
◇	57.130			BREF 324.0000
△	60.130			XHRP 1086.4000
▽	63.130			YHRP .0000
				ZHRP 400.0000
				SCALE .0030

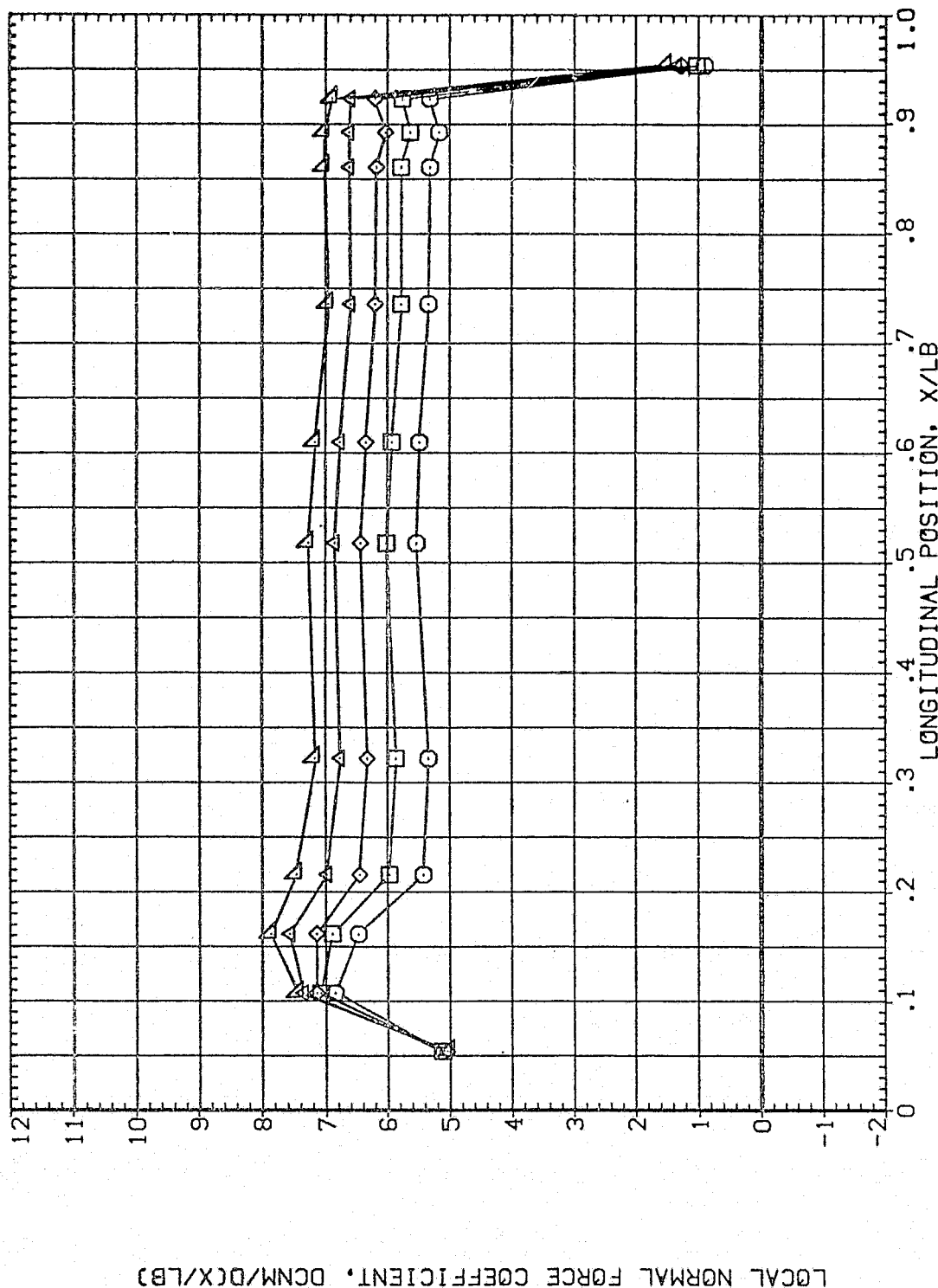


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(MACH = 4.96)

REFERENCE INFORMATION  
 SREF 572.5550  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP .0000  
 ZMRP 400.0000  
 SCALE .0030

PARAMETRIC VALUES  
 .000 HOUNT 2.000  
 .000

ALPHA 66.130  
 BETA 69.130  
 PHI 69.980  
 71.980  
 74.860

SYMBOL  
 ○  
 □  
 ◇  
 △

LOCAL NORMAL FORCE COEFFICIENT,  $C_{DN}/D(X/LB)$

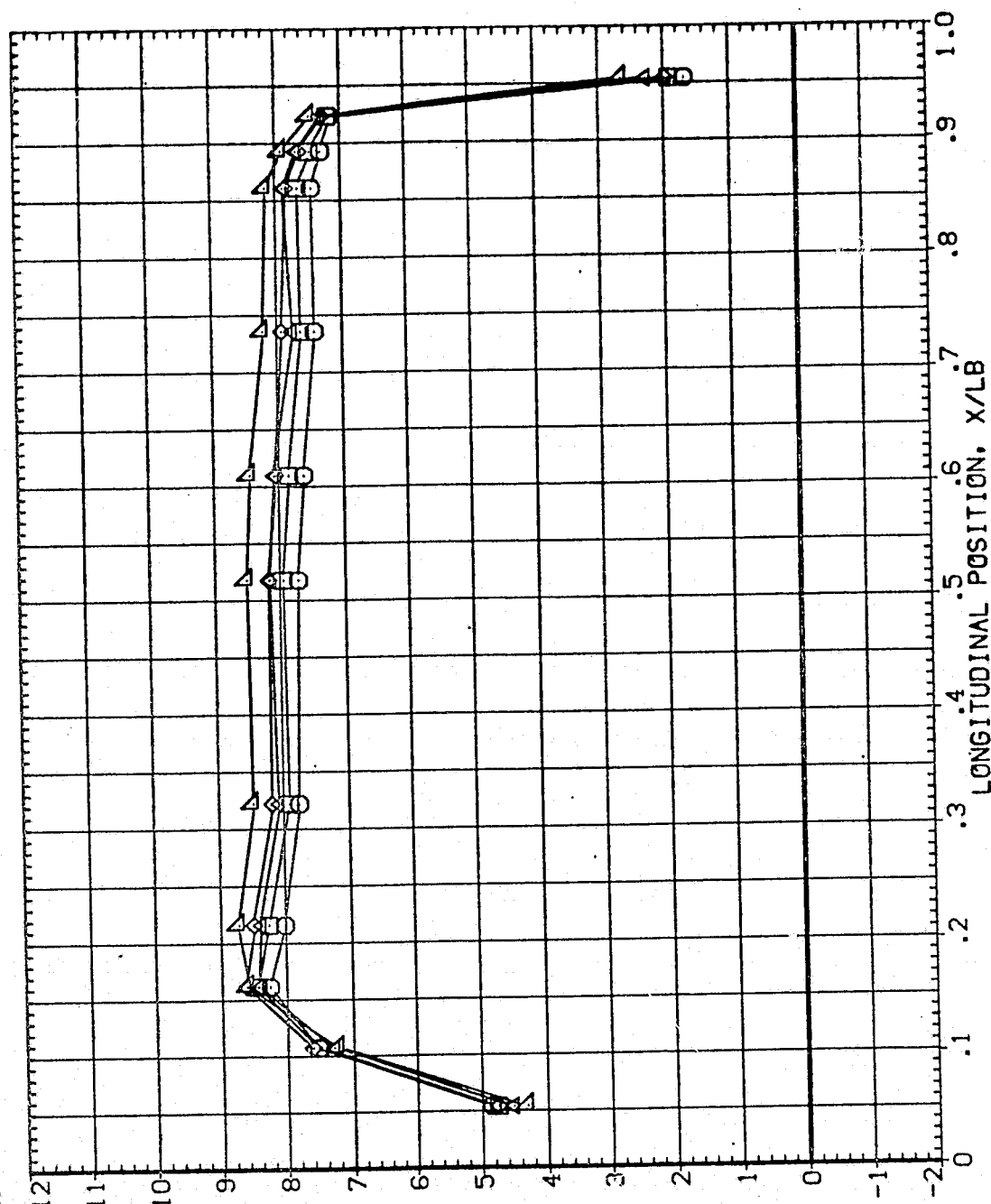


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (M1AX61)

SYMBOL	ALPHA	BETA	PHI	PARAMETRIC VALUES	REFERENCE INFORMATION
○	77.880	.000	.000	MOUNT	SREF 572.5550
◇	79.930	.000	.000		LREF 324.0000
□	81.830				BREF 324.0000
△	84.830				XMRP 1086.4000
▽	87.830				YMRP 400.0000
					ZMRP 400.0000
					SCALE .0030
					IN. XT
					IN. YT
					IN. ZT

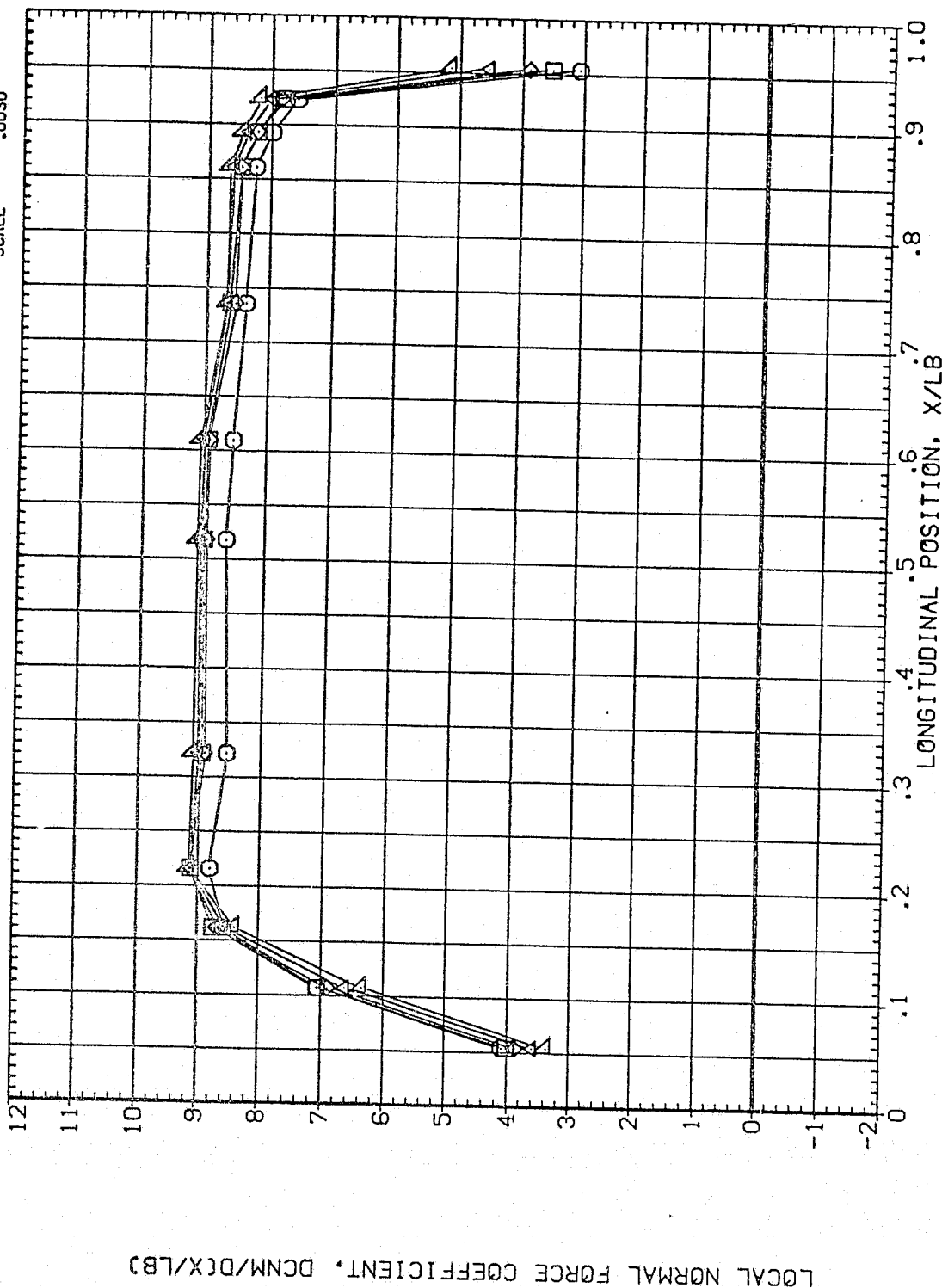


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

CA/MACH = 4.96

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
□	89.830	PHI	.000 HOUNT 2.000	SREF 572.5550 SQ. FT
◇	91.850			LREF 324.0000 INCHES
△	94.850			BREF 324.0000 INCHES
△	97.830			XMRP 1086.4000 IN. XT
△	99.750			YMRP .0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0030

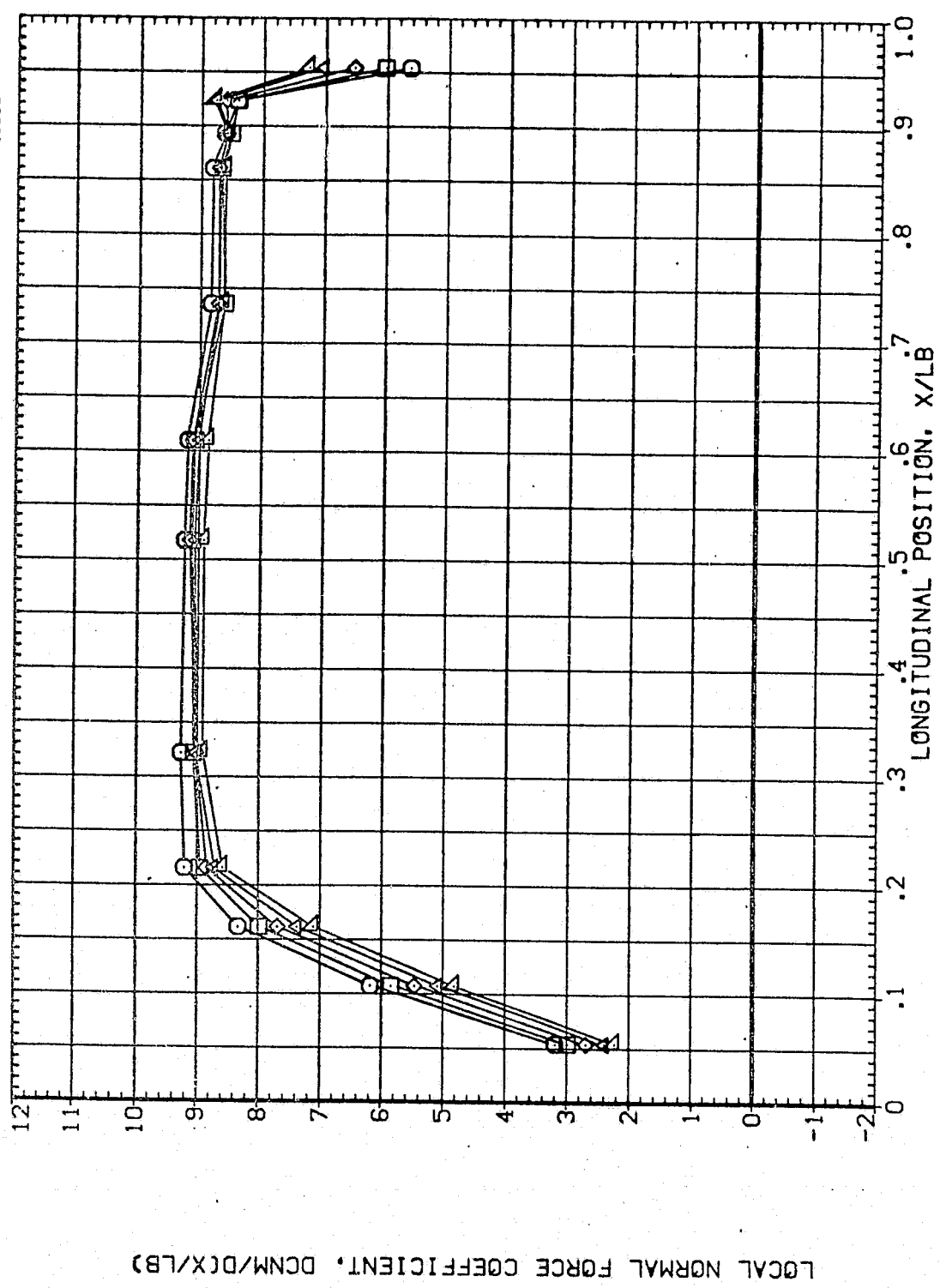


FIG. 10 LOCAL NORMAL FORCE DISTRIBUTION - T2 WITHOUT PROTRUDANCES

(A)MACH = 4.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (B1AX61)

SYMBOL	ALPHA	BETA	PHI	PARAMETRIC VALUES	REFERENCE INFORMATION
○	51.110			.000	SREF 572.5550
□	54.110			.000	LREF 324.0000
◇	57.110				BREF 324.0000
△	60.130				YMRP 1086.4000
▽	63.130				YMRP .0000
					ZMRP 400.0000
					SCALE .0030

LOCAL SIDE FORCE COEFFICIENT, DCYM/DC(X/LB)

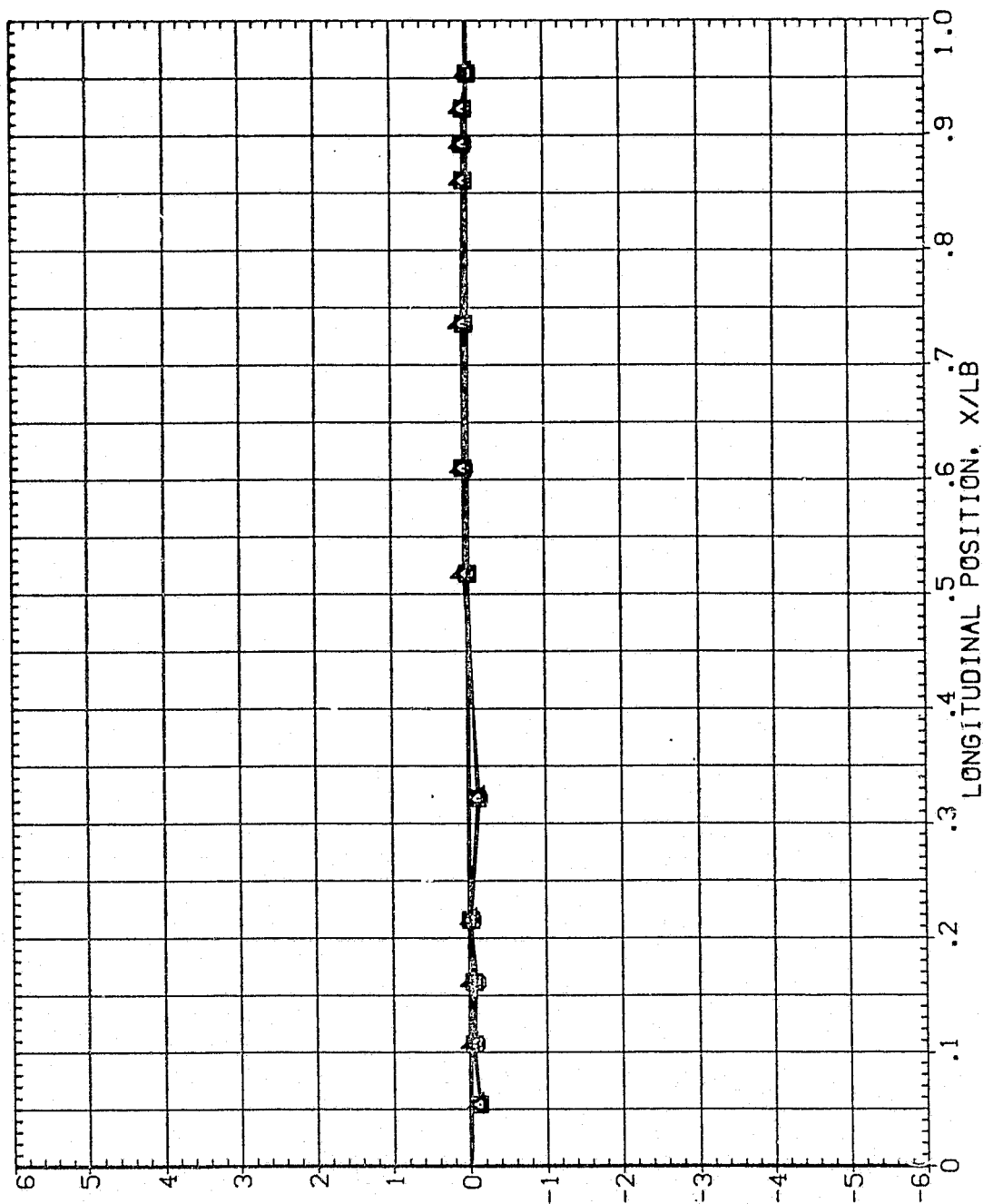


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES  
(A) MACH = 1.96

SYMBOL  
○  
□  
◇  
△  
▽

ALPHA  
68.130  
69.130  
69.960  
71.880  
74.860

BETA  
PHI  
PARAMETRIC VALUES  
.000  
MOUNT  
2.000

REFERENCE INFORMATION  
SREF 572.5550  
LREF 324.0000  
BREF 324.0000  
XMRP 1086.4000  
YMRP .0000  
ZMRP 400.0000  
SCALE .0030  
S0. FT  
INCHES  
IN. XT  
IN. YT  
IN. ZT

LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB

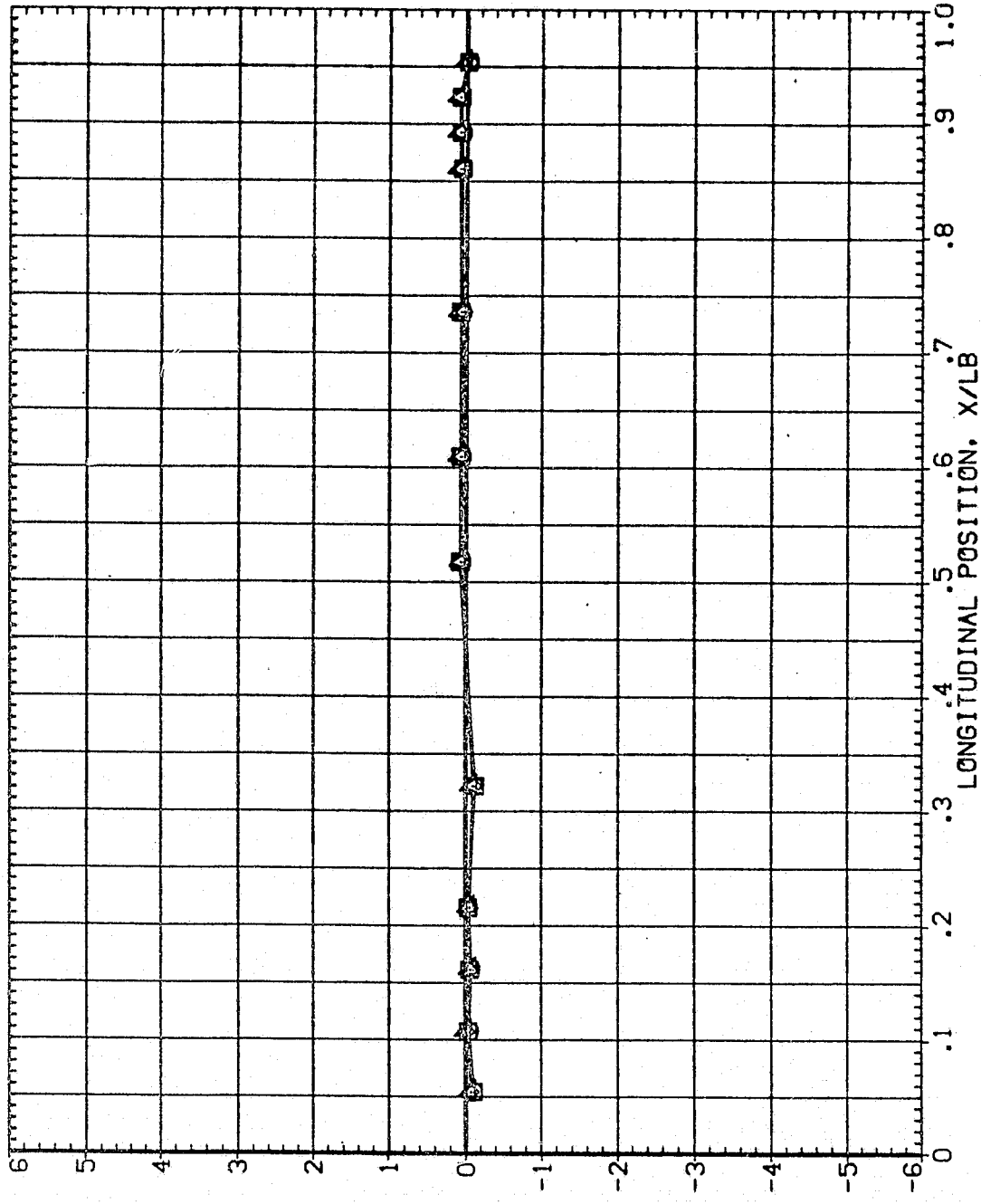


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

CAJ MACH = 1.96



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (BIA61)

SYMBOL ALPHA BETA PHI  
 77.860  
 79.930  
 81.830  
 84.830  
 87.830

PARAMETRIC VALUES  
 .000 .000  
 .000 .000

2.000

REFERENCE INFORMATION  
 SREF 572.5530  
 LREF 324.0000  
 BREF 324.0000  
 XMRP 1086.4000  
 YMRP .0000  
 ZMRP 400.0000  
 SCALE .0030

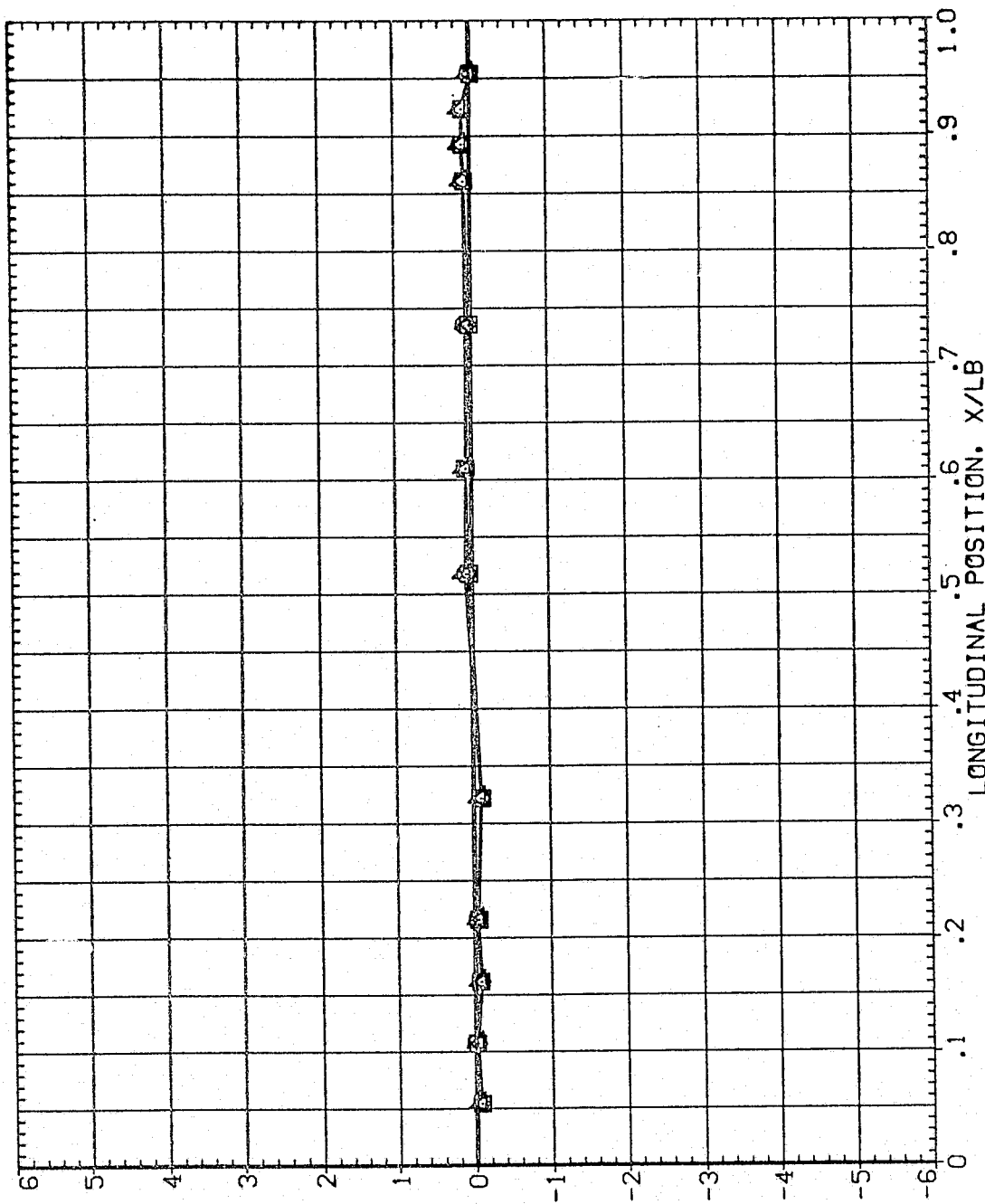


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(M)MACH = 1.96

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

SYMBOL	ALPHA	BETA	PHI	PARAMETRIC VALUES	REFERENCE INFORMATION
□	89.830			.000	SREF 572.5550
◇	91.830			.000	LREF 324.0000
△	94.850				BREF 324.0000
▽	97.850				XMRP 1086.4000
	99.730				YMRP 400.0000
					ZMRP 400.0000
					SCALE .0030
					IN. FY
					INCHES
					IN. XT
					IN. YT
					IN. ZT

LOCAL SIDE FORCE COEFFICIENT,  $DCY/D(X/LB)$

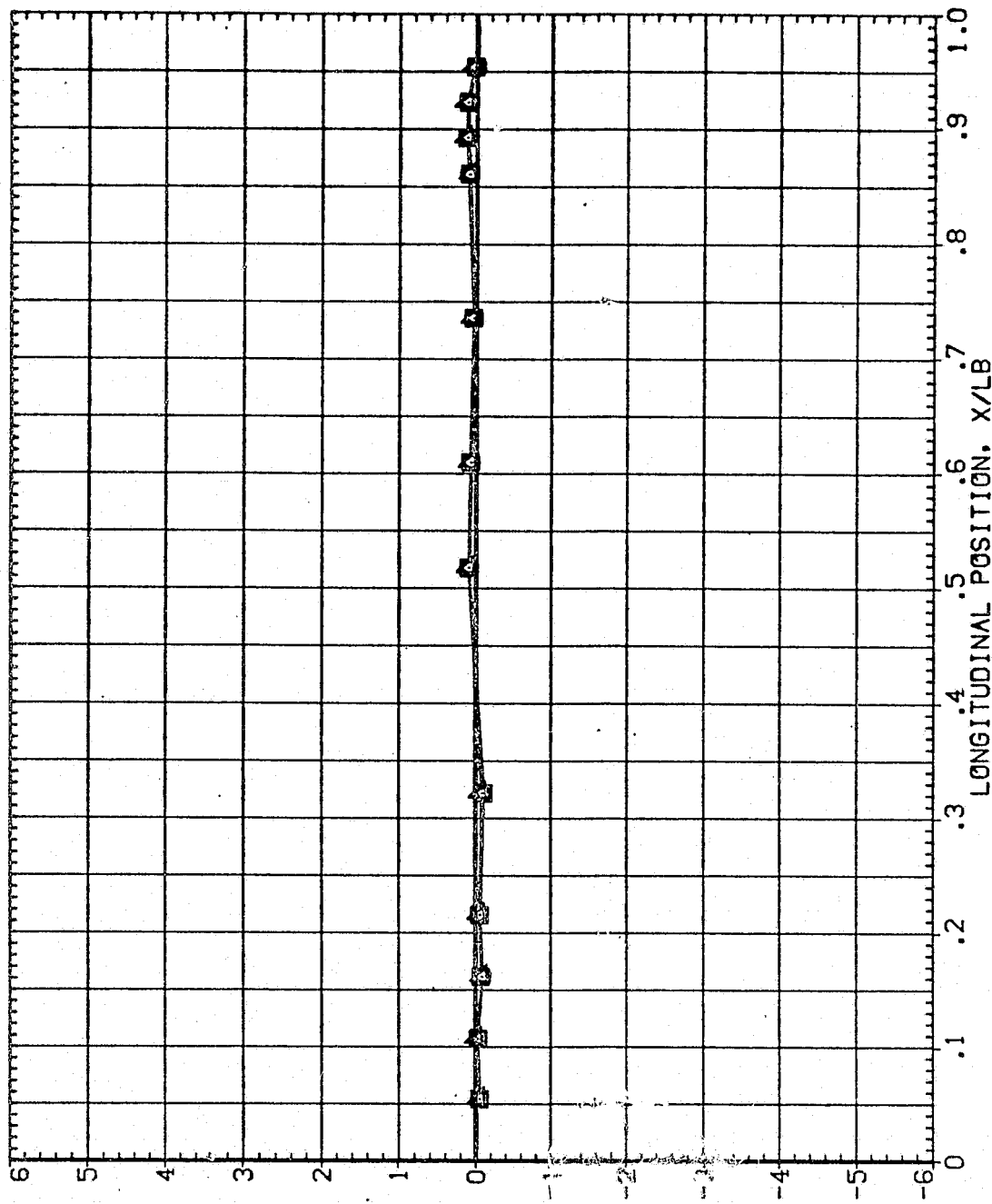


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 1.96

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (01A061)

SYMBOL	ALPHA	BETA	PHI	PARAMETRIC VALUES	MGUNT	2.000	REFERENCE INFORMATION
○	51.000			.000			SREF 572.5550
□	54.130			.000			LREF 324.0000
◇	57.130						BREF 324.0000
△	60.130						XHRP 1086.4000
▽	63.130						YHRP -0.0000
							ZHRP 400.0000
							SCALE .0030

LOCAL SIDE FORCE COEFFICIENT, DCYM/DIX/LB)

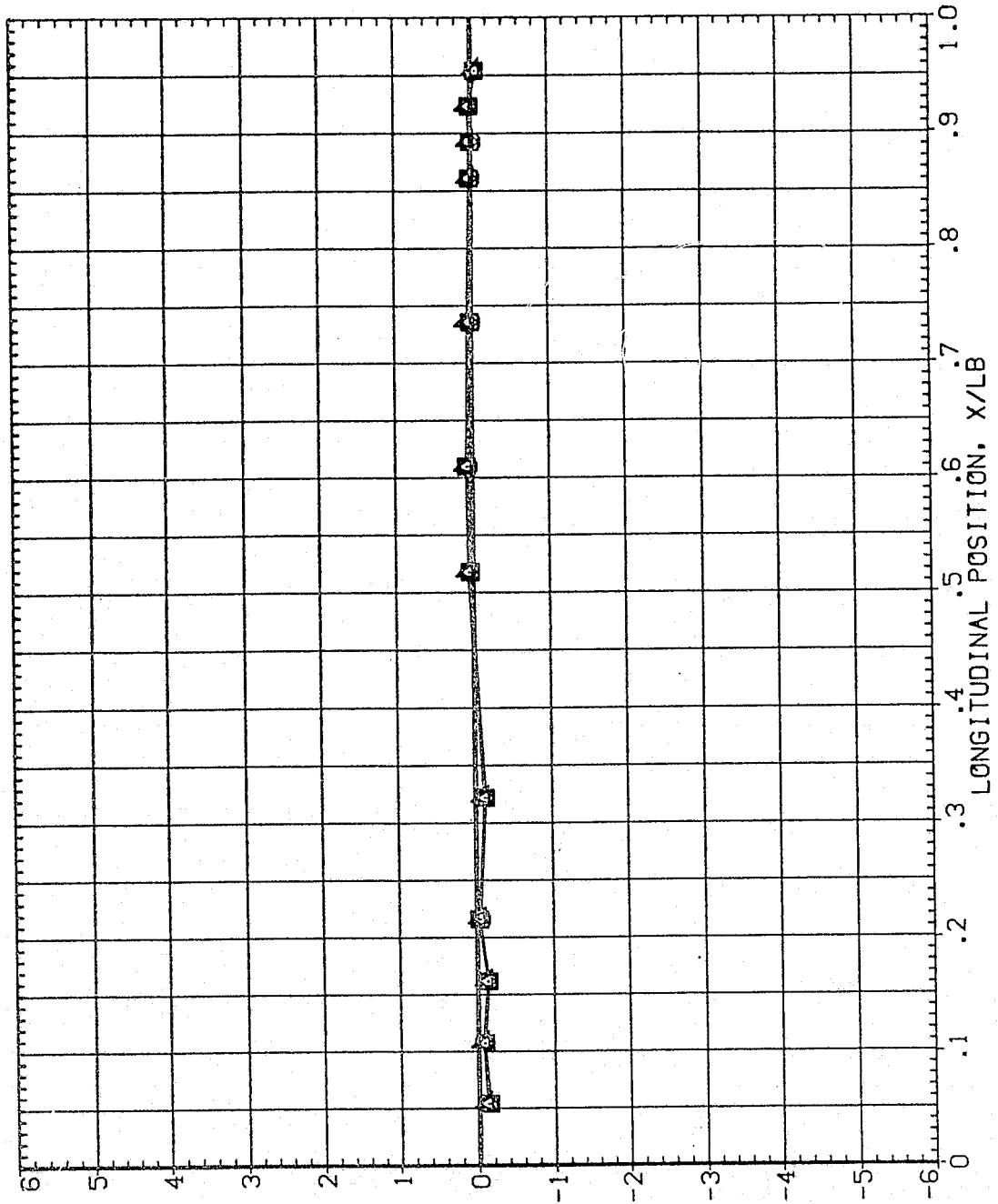


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 3.48

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
□	66.130	PHI	.000	SREF 572.5550
◇	69.130		.000	LREF 324.0000
◇	69.980			RREF 324.0000
◇	71.880			YMRP 1086.4000
◇	74.860			ZMRP 400.0000
				SCALE .0030

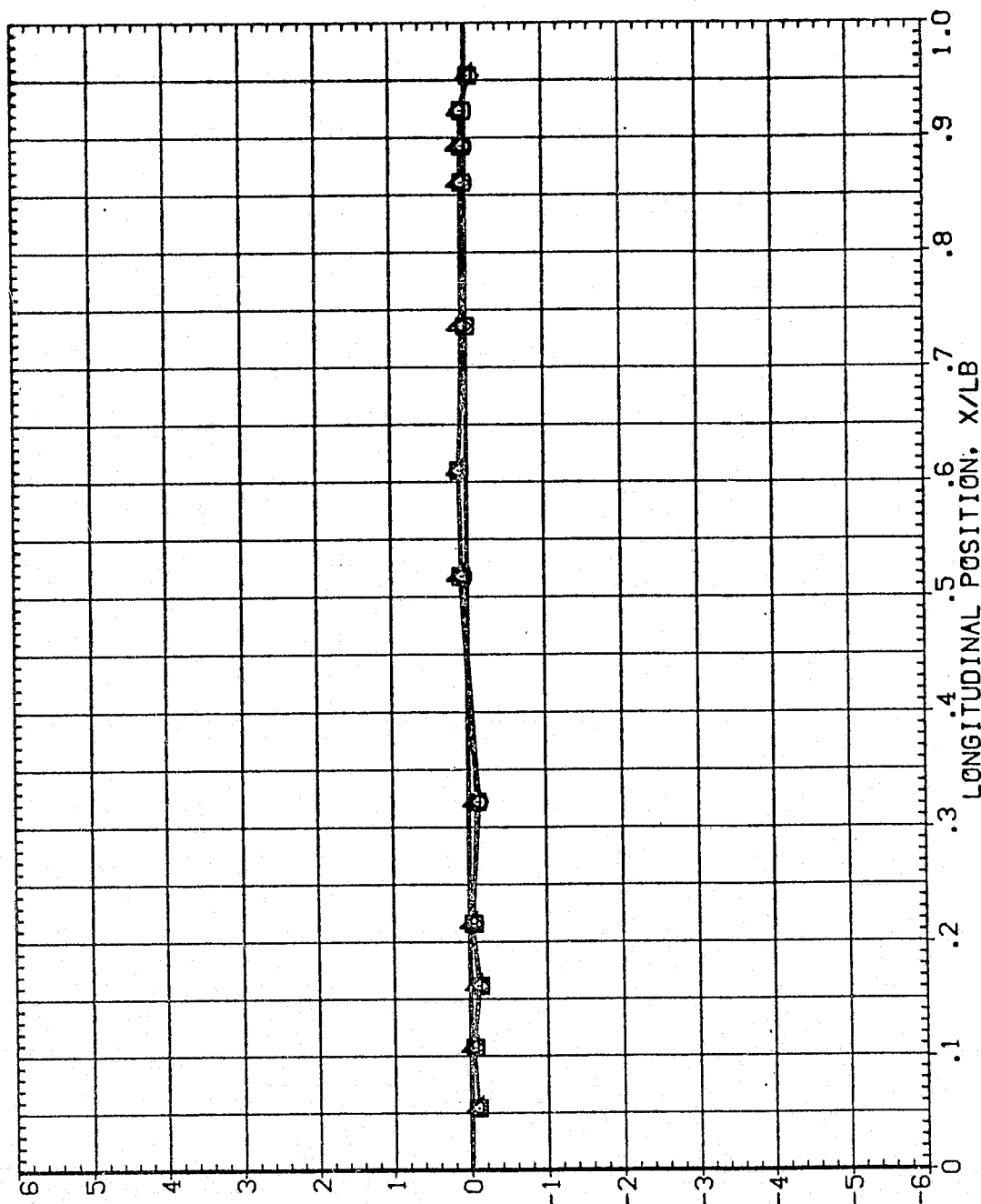


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

CA/MACH = 3.48

# MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (01A061)

SYMBOL	ALPHA	BETA	PHI	PARAMETRIC VALUES	REFERENCE INFORMATION
□	77.880			.000	SREF 572.5550
◇	79.930			.000	LREF 324.0000
△	81.830				BREF 324.0000
▽	84.830				XMRP 1086.4000
	87.830				YMRP .0000
					ZMRP 400.0000
					SCALE .0030

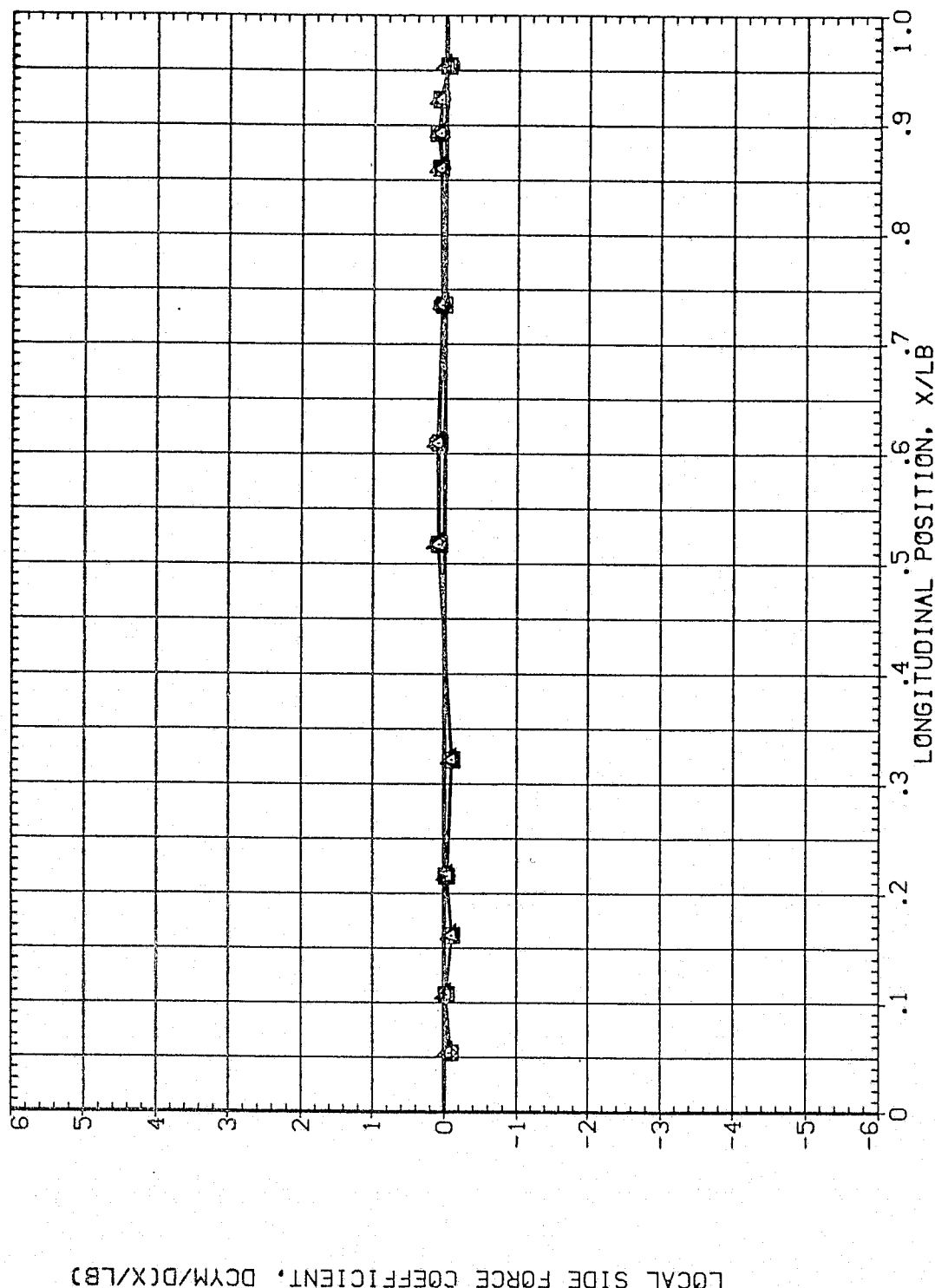


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 3.48

SYMBOL ALPHA BETA PHI  
 □ 89.830  
 ◇ 91.850  
 △ 94.850  
 ▽ 97.830  
 ▴ 99.750

PARAMETRIC VALUES  
 .000 MBUNT 2.000  
 .000

REFERENCE INFORMATION  
 SREF 572.5550 SO. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1066.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

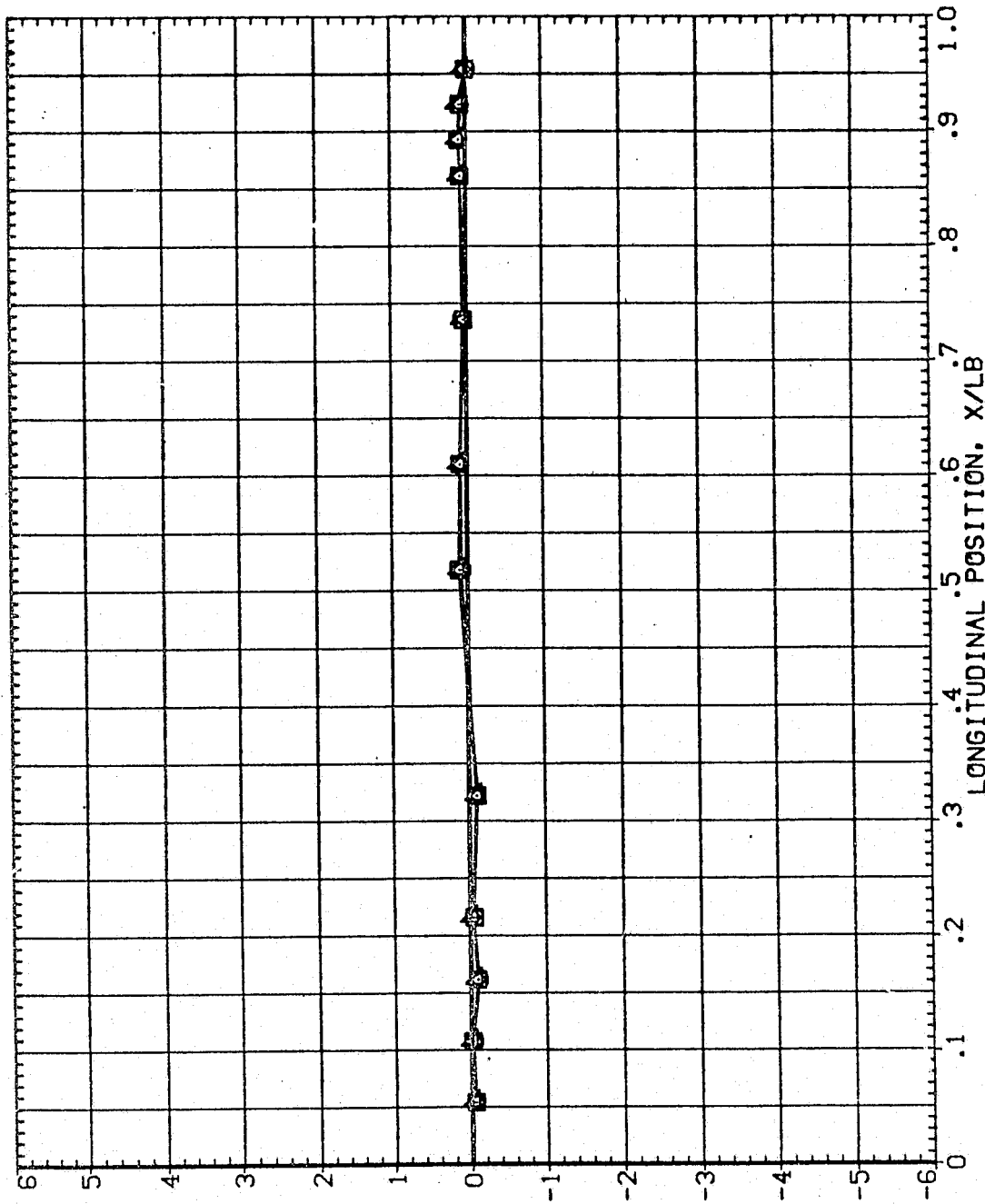


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 3.48

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (01A061)

SYMBOL	ALPHA	BETA	PHI	PARAMETRIC VALUES	REFERENCE INFORMATION
□	51.000	.000	.000	2.000	SREF 572.5550
◇	54.130	.000	.000		LREF 324.0000
△	57.130				BREF 324.0000
▽	60.130				XHRP 1086.4000
▽	63.130				YHRP .0000
					ZHRP 400.0000
					SCALE .0030

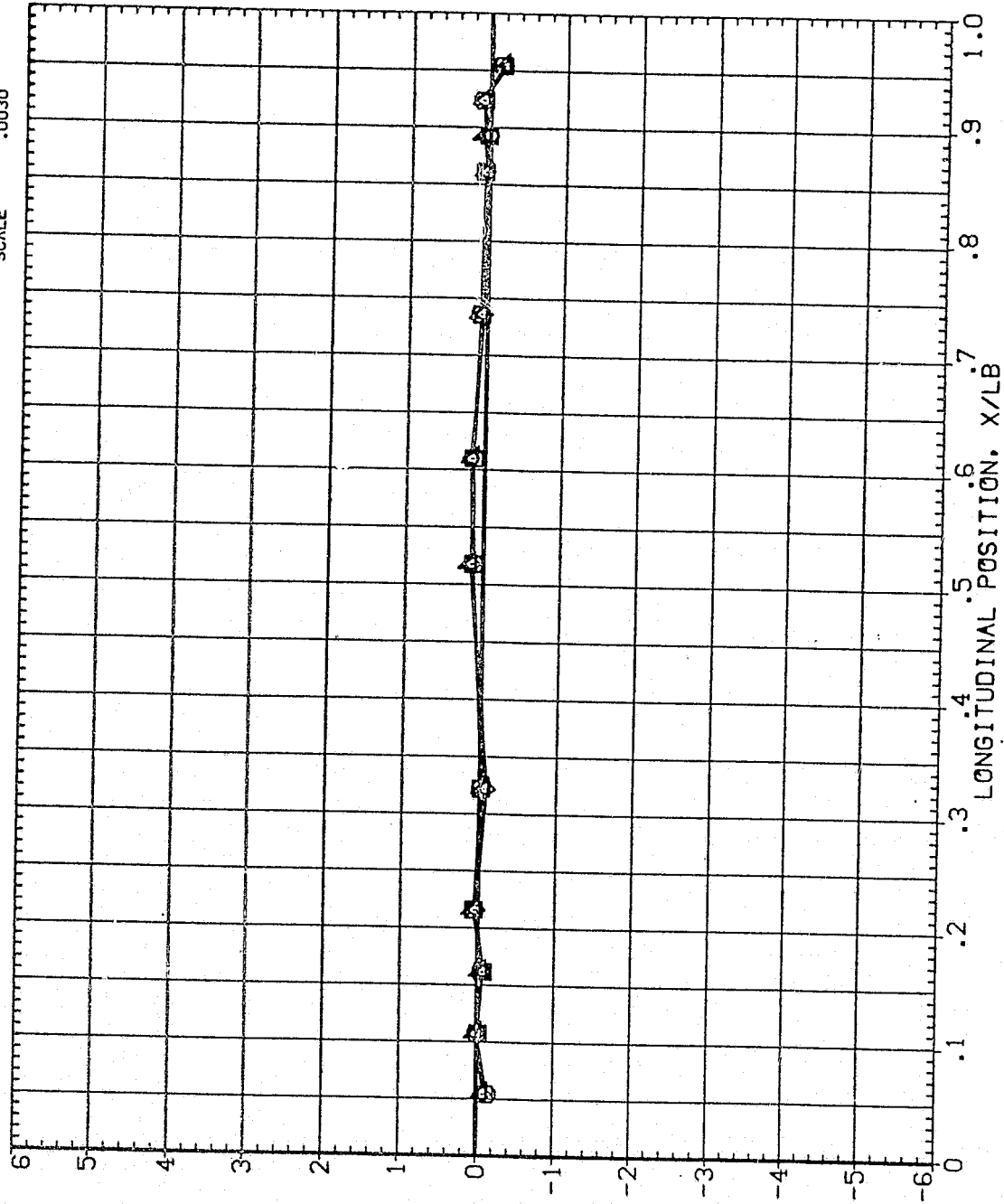


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(MACH = 4.96

SYMBOL  
 □  
 ◇  
 △  
 ▽

ALPHA  
 66.130  
 69.130  
 69.980  
 71.880  
 74.860

BETA  
 PHI

PARAMETRIC VALUES  
 .000 MBUNT  
 .000

2.000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

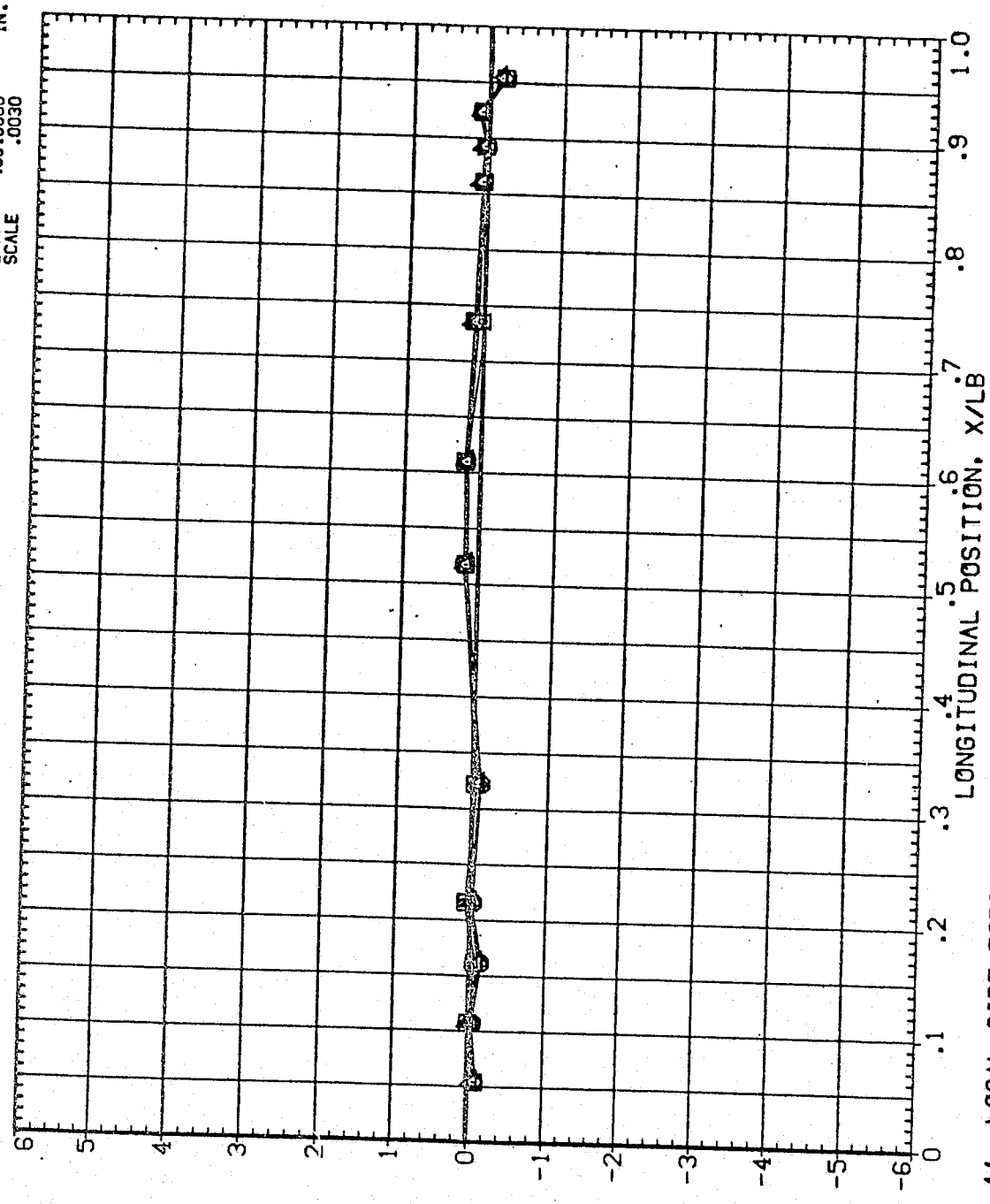


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES  
 (MACH = 4.96)



MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2 (Q1A061)

REFERENCE INFORMATION

SREF	572.5550	SO. FT
LREF	324.0000	INCHES
BREF	324.0000	INCHES
YHRP	1086.4000	IN. XT
ZHRP	400.0000	IN. YT
SCALE	.0030	IN. ZT

PARAMETRIC VALUES

ALPHA	BETA	PHI	MOUNT
77.880	.000	.000	2.000

SYMBOL

□	◇	△
79.830	81.830	84.830
87.830		

LOCAL SIDE FORCE COEFFICIENT, DCYM/DCX/LB)

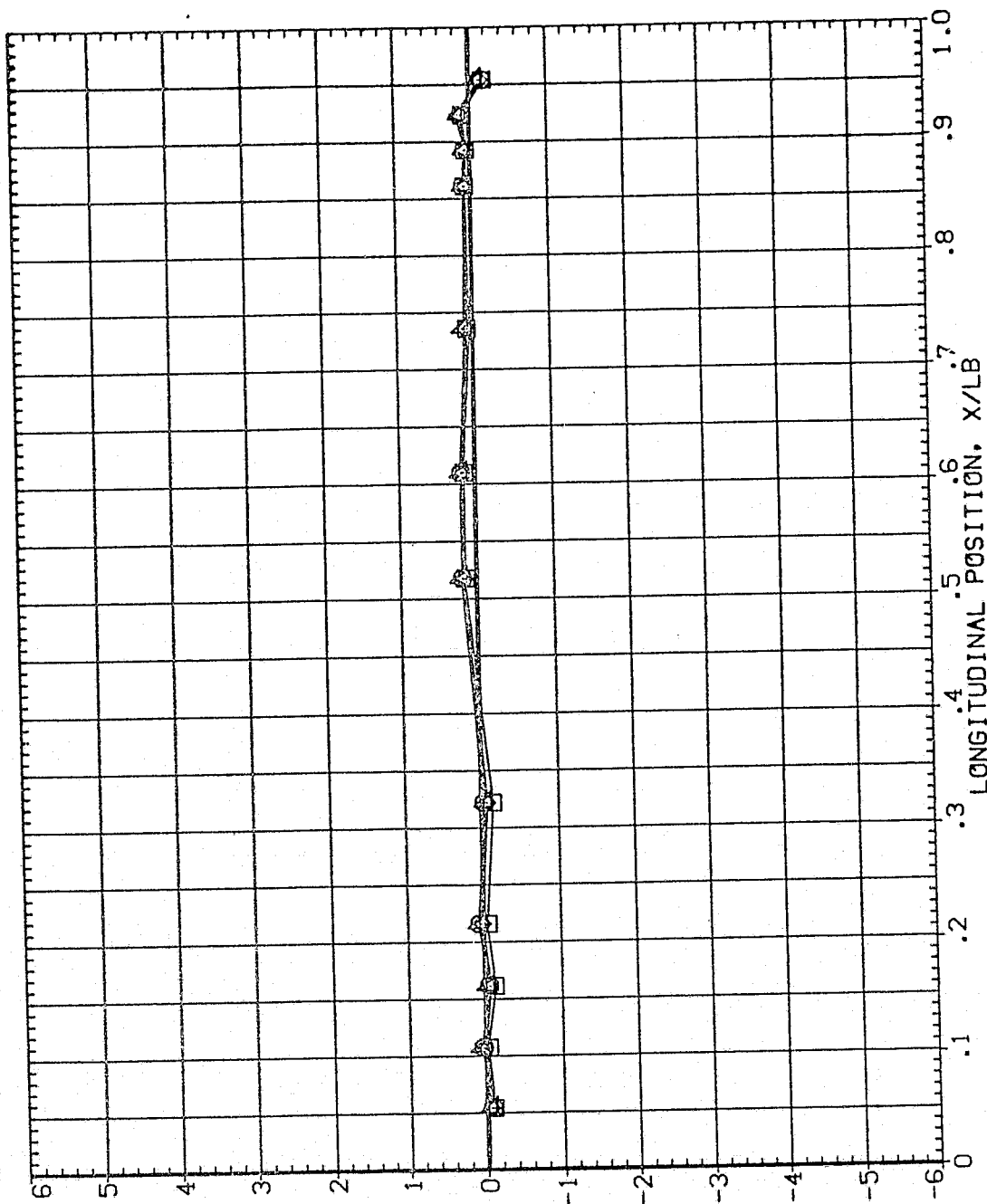


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 4.96

SYMBOL  
 ○ □ △ ▽

ALPHA  
 89.830  
 91.850  
 94.850  
 97.830  
 99.750

PARAMETRIC VALUES  
 .000 MOUNT  
 .000

2.000

BETA  
 PHI

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XHRP 1086.4000 IN. XT  
 YHRP .0000 IN. YT  
 ZHRP 400.0000 IN. ZT  
 SCALE .0030

LOCAL SIDE FORCE COEFFICIENT, DCYM/DC(X/LB)

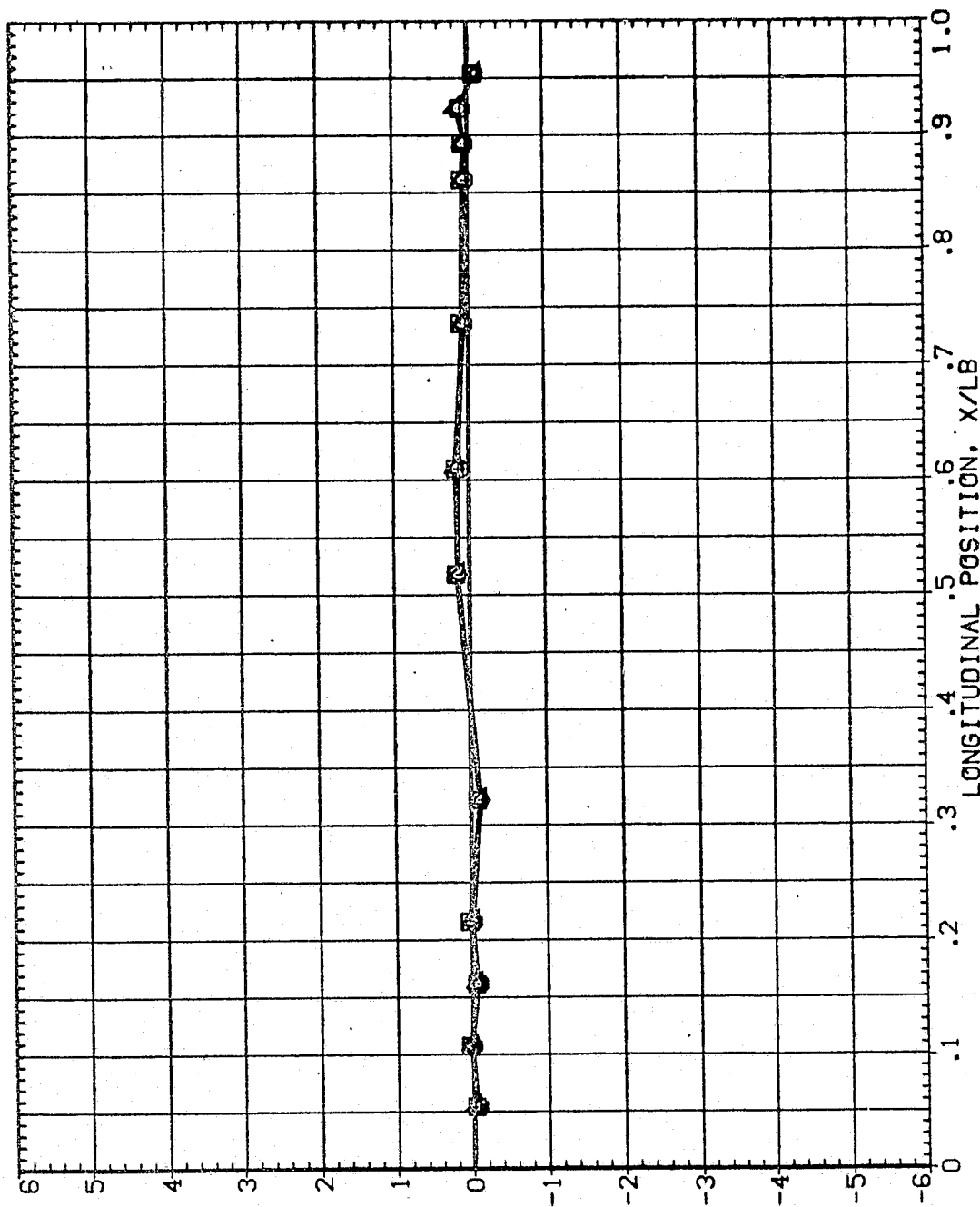


FIG. 11 LOCAL SIDE FORCE DISTRIBUTION - T2 WITHOUT PROTUBERANCES

(A)MACH = 4.96

DATA SET SYMBOL    CONFIGURATION DESCRIPTION  
 (J1A001)    MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK. T1  
 (J1A003)    DATA NOT AVAILABLE  
 (J1A005)    MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK. T1  
 (J1A015)    MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK. T2

BETA    .PHI  
 .000    .000  
 .000    45.000  
 .000    90.000

REFERENCE INFORMATION  
 SREF    572.5550    SQ. FT  
 LREF    324.0000    INCHES  
 BREF    324.0000    INCHES  
 XMRP    1086.4000    IN. XT  
 YMRP    .0000    IN. YT  
 ZMRP    400.0000    IN. ZT  
 SCALE    .0030

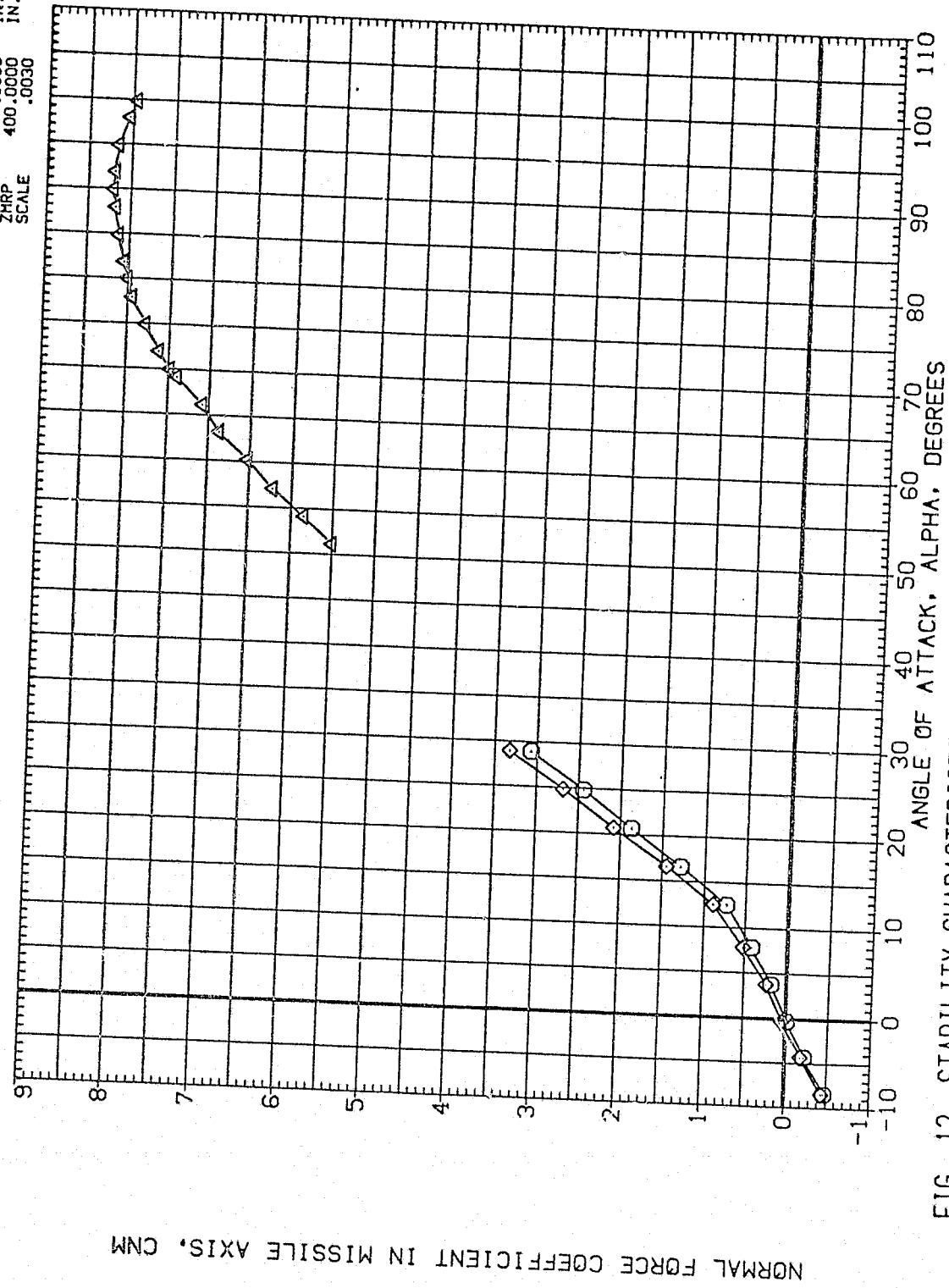


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)  
 (MACH = 1.96

DATA SET SYMBOL  
(J1A007)  
(J1A009)  
(J1A011)  
(J1A015)

CONFIGURATION DESCRIPTION  
DATA NOT AVAILABLE  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
DATA NOT AVAILABLE  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

BETA PHI  
.000 135.000  
.000 180.000  
.000 225.000  
.000 .000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030

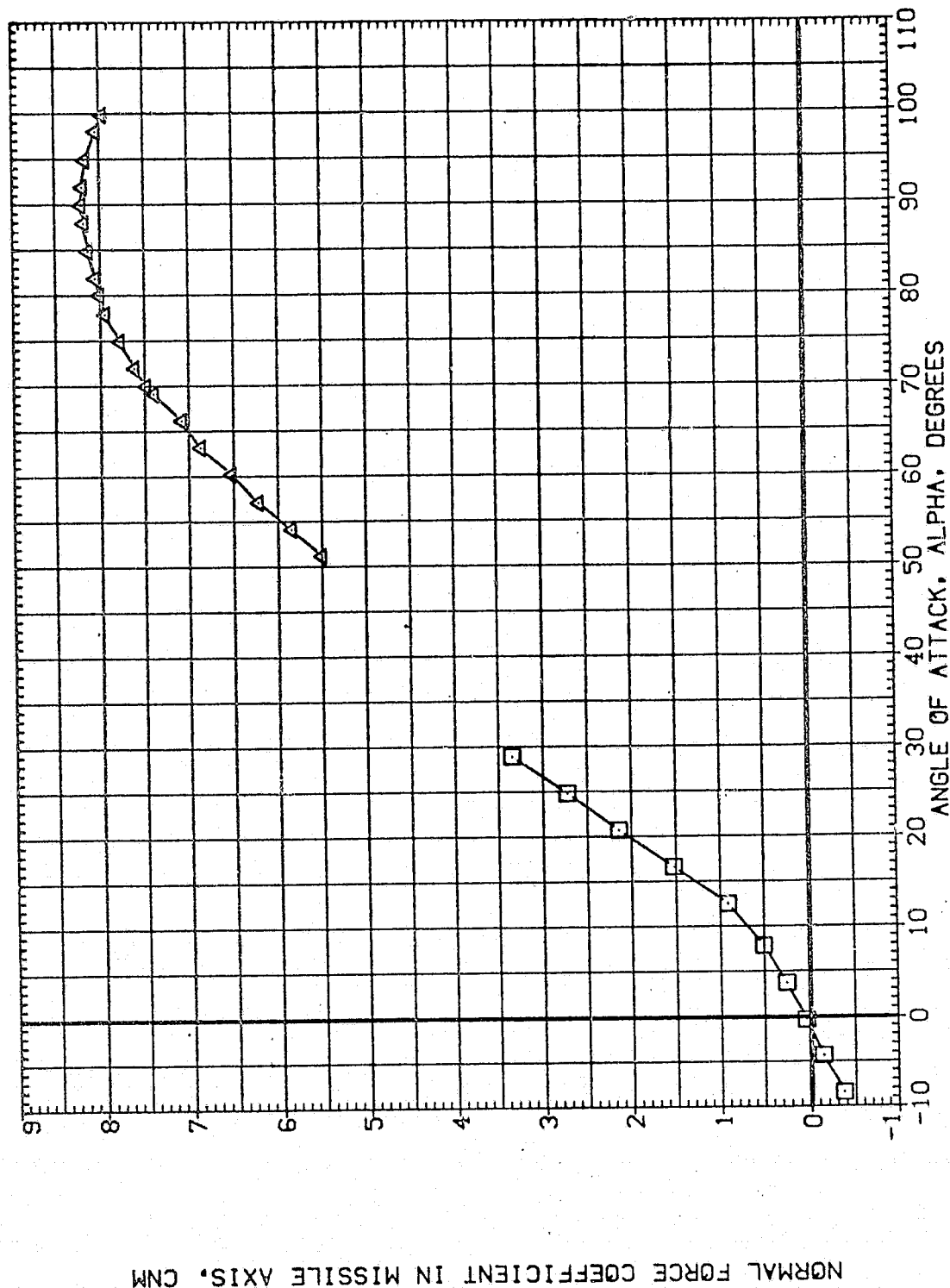


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

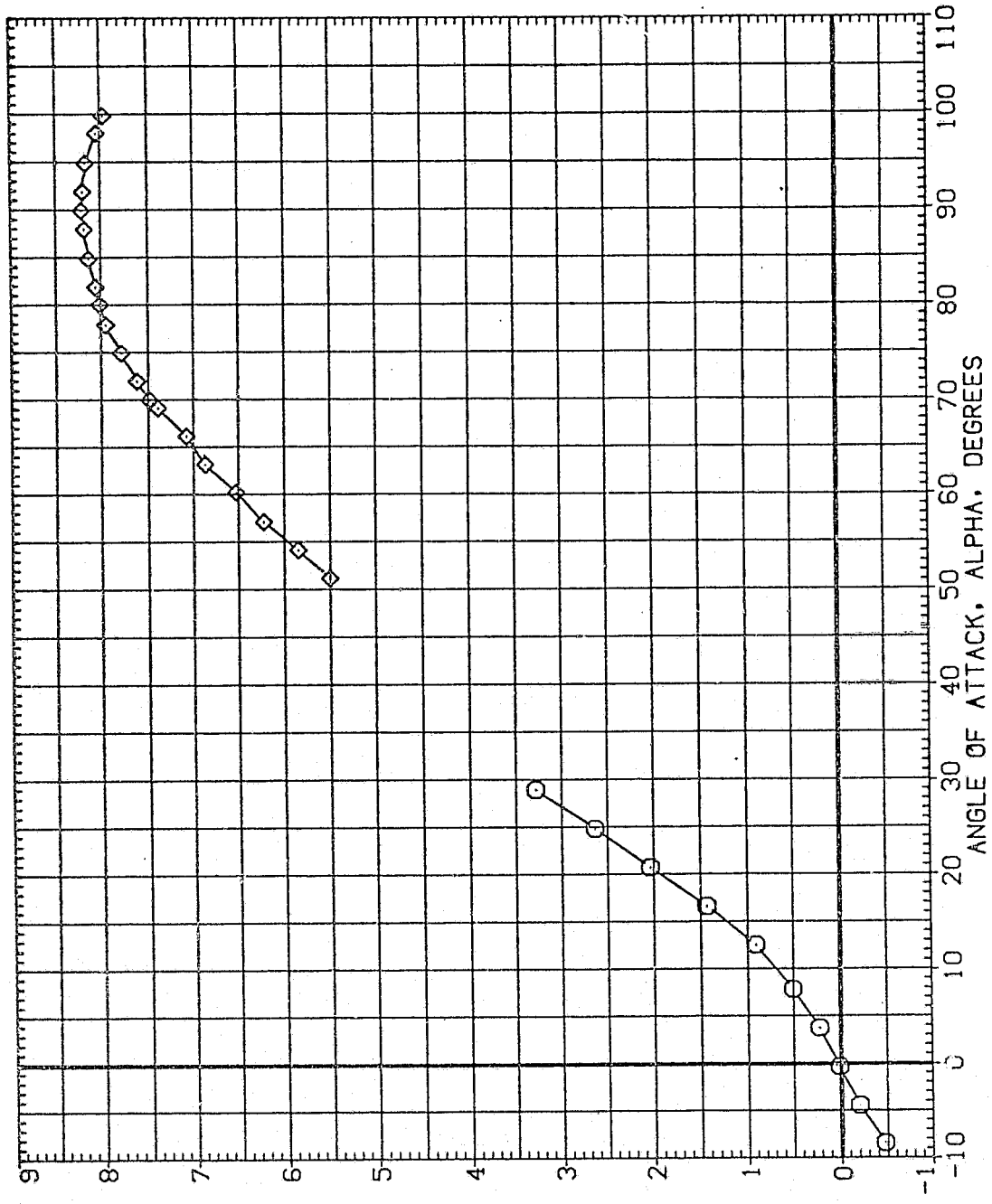
(A)MACH = 1.96

DATA SET SYMBOL  
(J1A013)  
(J1A018)  
(J1A015)

CONFIGURATION DESCRIPTION  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
DATA NOT AVAILABLE  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

BETA PHI  
.000 270.000  
.000 315.000  
.000 .000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XHRP 1086.4000 IN. XT  
YHRP .0000 IN. YT  
ZHRP 400.0000 IN. ZT  
SCALE .0030



NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CAJ MACH = 1.96

DATA SET SYMBOL		CONFIGURATION DESCRIPTION		BETA		PHI		REFERENCE INFORMATION	
(J1A001)	□	MSFC 596 (TA-2F) MCR0200	EXTERNAL TANK, T1	.000	.000	SREF	572.5530	50. FT	
(J1A003)	◇	DATA NOT AVAILABLE		.000	45.000	LREF	324.0000	INCHES	
(J1A005)	△	MSFC 596 (TA-2F) MCR0200	EXTERNAL TANK, T1	.000	90.000	BREF	324.0000	INCHES	
(J1A015)	△	MSFC 596 (TA-2F) MCR0200	EXTERNAL TANK, T2	.000	.000	XMRP	1086.4000	IN. XT	
						YMRP	.0000	IN. YT	
						ZMRP	400.0000	IN. ZT	
						SCALE	.0030		

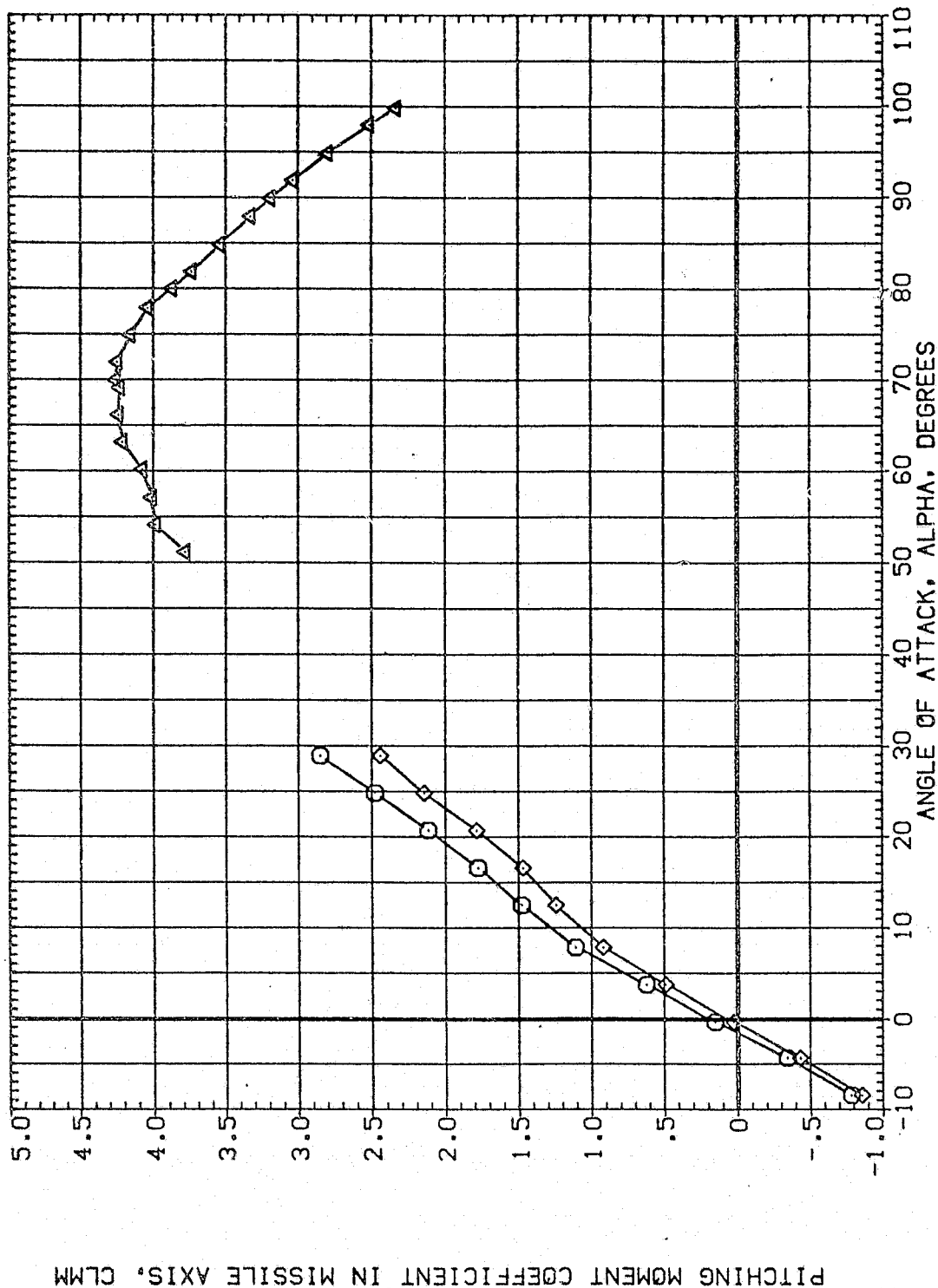


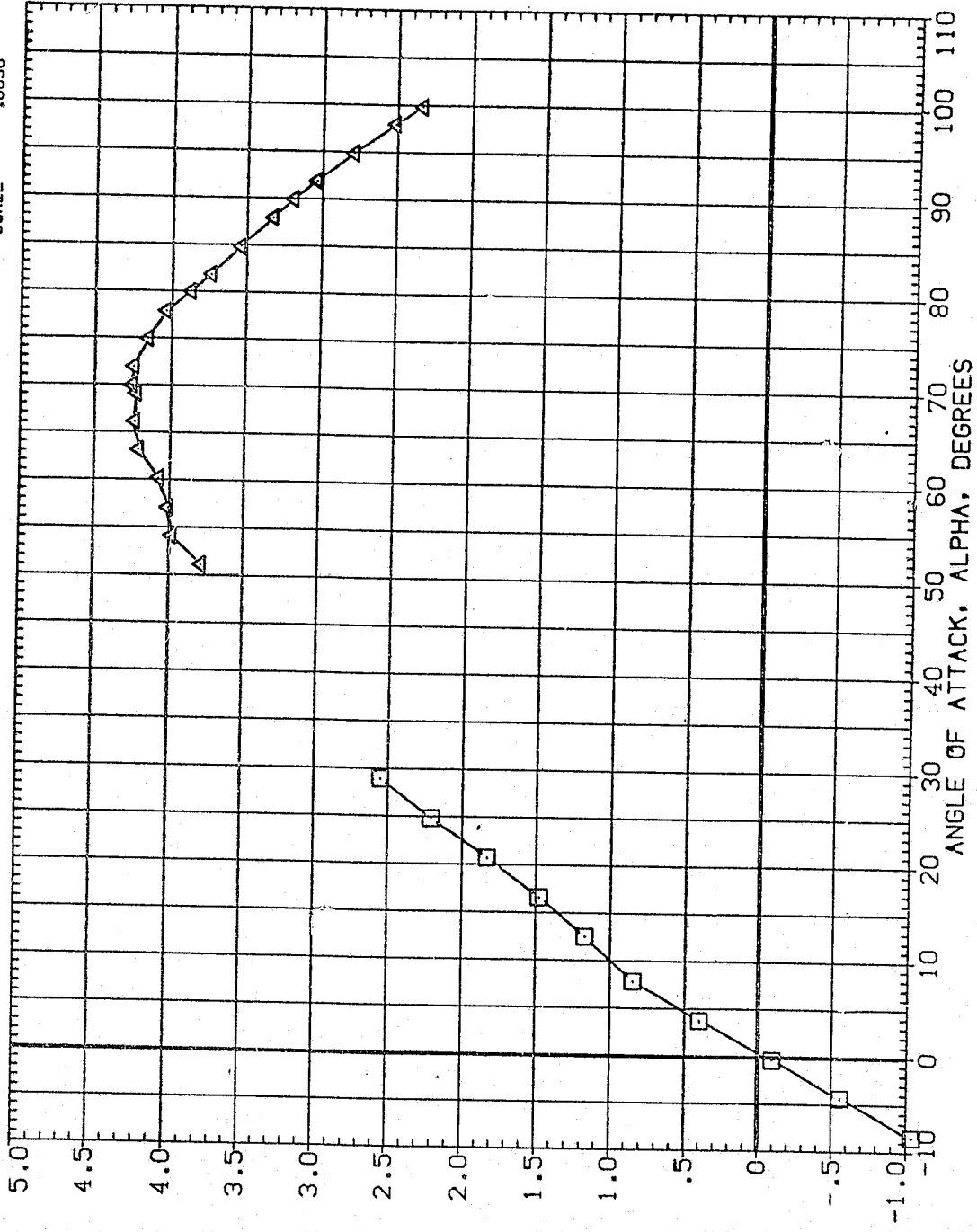
FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(M)MACH = 1.96

DATA SET SYMBOL      CONFIGURATION DESCRIPTION  
 (J1A007)      DATA NOT AVAILABLE  
 (J1A009)      HSEC 596 (TA-2FJ) MCR0200 EXTERNAL TANK, T1  
 (J1A011)      DATA NOT AVAILABLE  
 (J1A015)      HSEC 596 (TA-2FJ) MCR0200 EXTERNAL TANK, T2

BETA      PHI  
 .000      135.000  
 .000      180.000  
 .000      225.000  
 .000      .000

REFERENCE INFORMATION  
 SREF      572.5550      50. FT  
 LREF      324.0000      INCHES  
 BREF      324.0000      INCHES  
 XMRP      1086.4000      IN. XT  
 YMRP      .0000      IN. YT  
 ZMRP      400.0000      IN. ZT  
 SCALE      .0030



PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)  
 CAJ MACH = 1.96      PAGE 2709

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 ORIGINAL PAGE IS POOR

REFERENCE INFORMATION  
 SREF 572.5530 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XHRP 1086.4000 IN. XT  
 YHRP .0000 IN. YT  
 ZHRP 400.0000 IN. ZT  
 SCALE .0030

BETA PHI  
 .000 270.000  
 .000 315.000  
 .000 .000

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (J1A013) MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
 (J1A018) DATA NOT AVAILABLE  
 (J1A015) MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

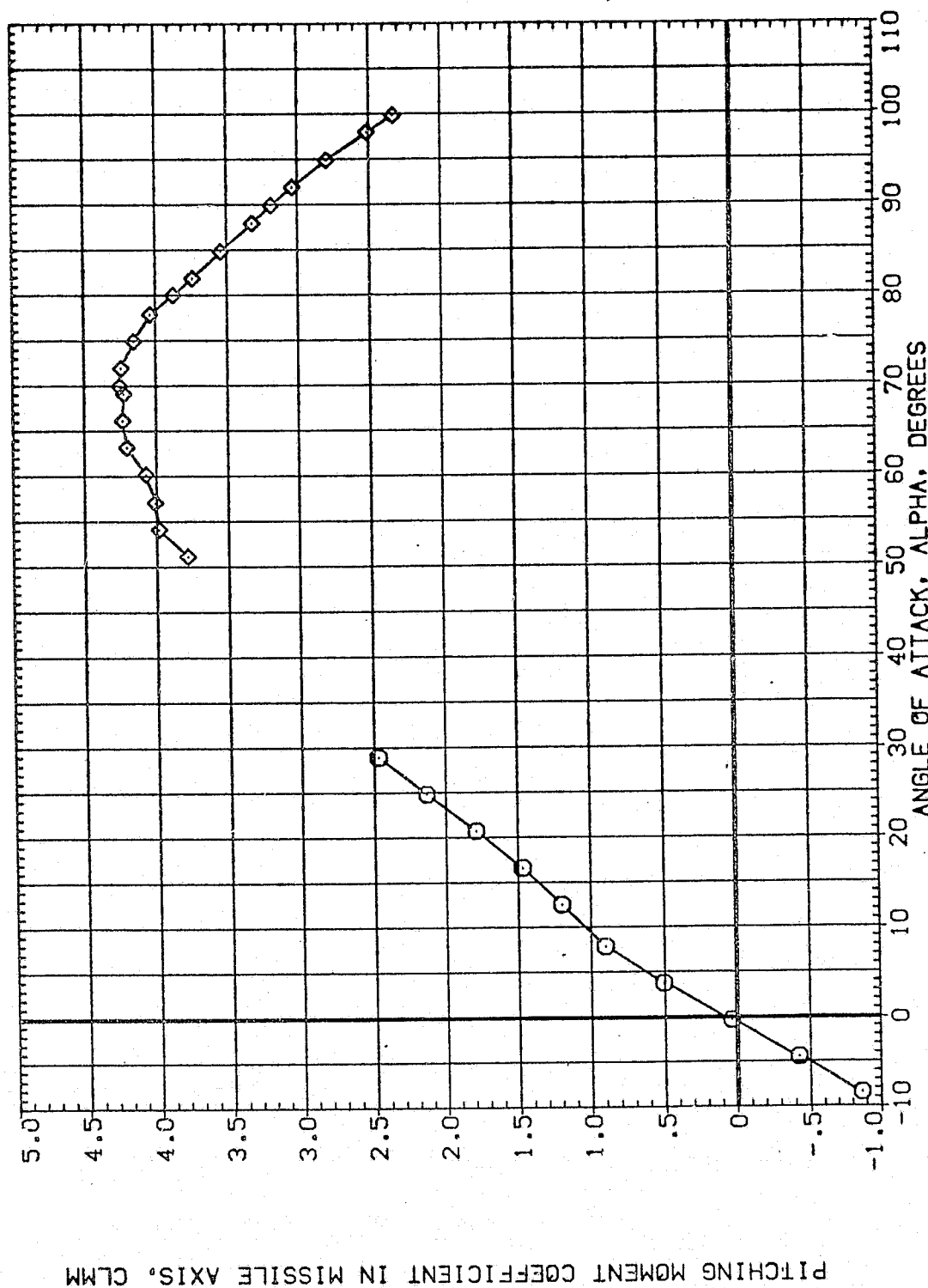
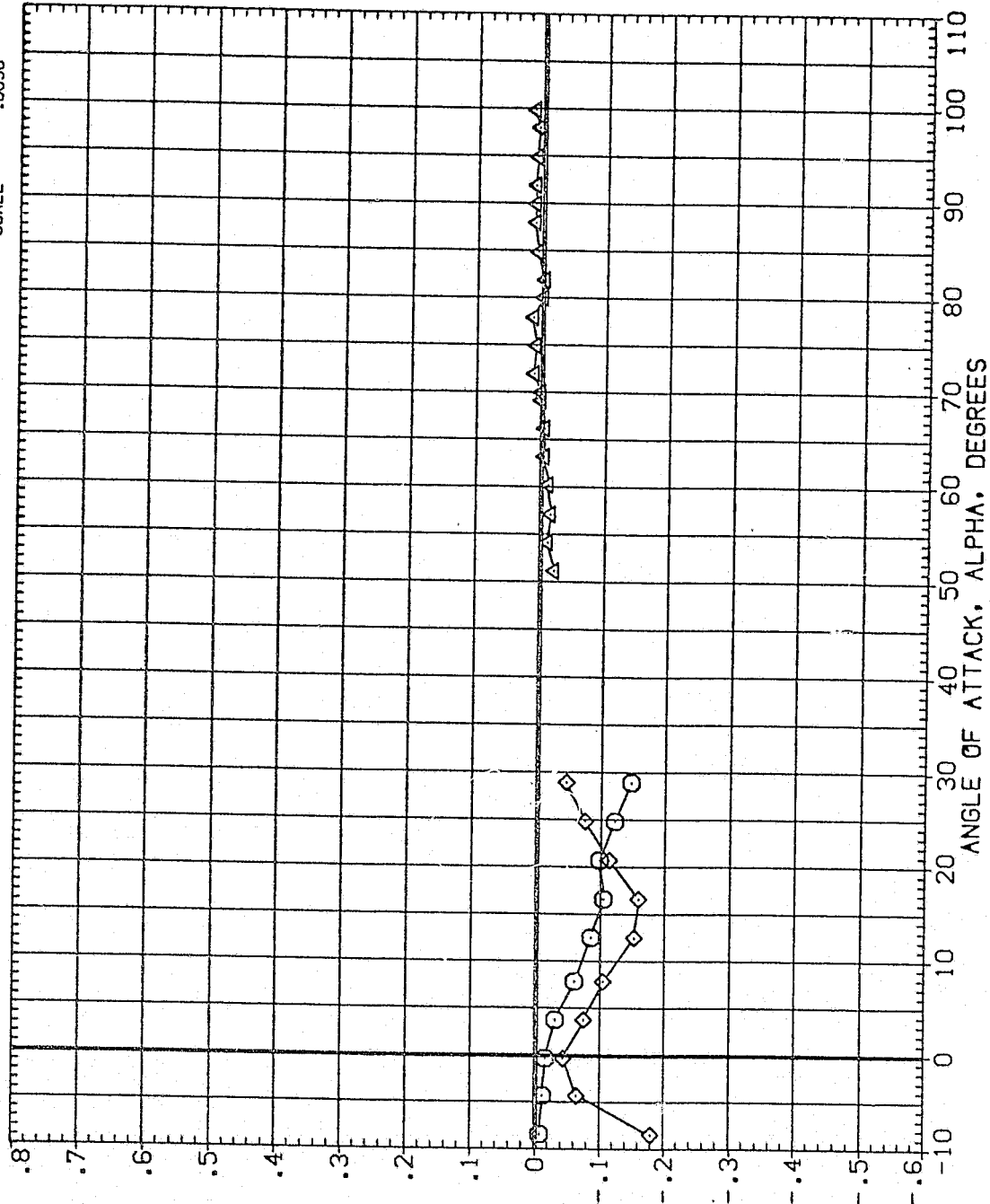


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(A)MACH = 1.96



DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A001)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	.000	SREF 572.5550 SQ. FT
(J1A003)	DATA NOT AVAILABLE	.000	45.000	LREF 324.0000 INCHES
(J1A005)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	90.000	BREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	XMRP 1086.4000 IN. XT
				YMRP .0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0030



SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(A)MACH = 1.96

# DATA SET SYMBOL

(J1A007)  
(J1A009)  
(J1A011)  
(J1A015)

# CONFIGURATION DESCRIPTION

DATA NOT AVAILABLE  
HSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T1  
DATA NOT AVAILABLE  
HSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T2

# BETA

.000  
.000  
.000  
.000

# PHI

135.000  
180.000  
225.000

# REFERENCE INFORMATION

SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. X1  
YMRP .0000 IN. Y1  
ZMRP 400.0000 IN. Z1  
SCALE .0030

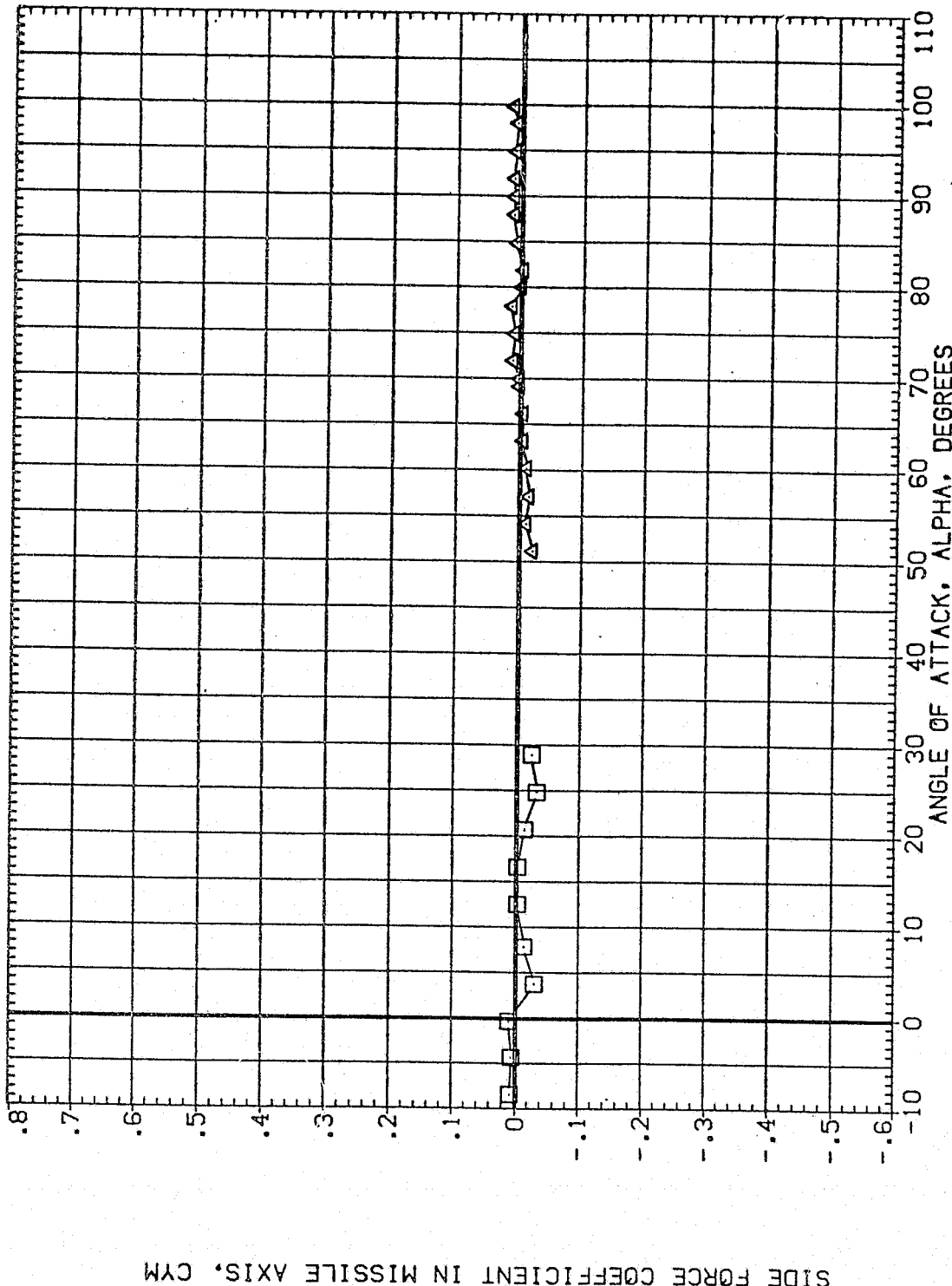


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CA/MACH = 1.96

(J1A013)  
(J1A018)  
(J1A015)

[illegible]

MSFC 596 (TA-2F) MCR0200	EXTERNAL TANK, T1
DATA NOT AVAILABLE	
MSFC 596 (TA-2F) MCR0200	EXTERNAL TANK, T2

BETA PHI

270.000	270.000
315.000	315.000
.000	.000

## REFERENCE INFORMATION

SREF	572.5530	50. FT
LREF	324.0000	INCHES
BREF	324.0000	INCHES
XMRP	1086.4000	IN. XT
YMRP	.0000	IN. YT
ZMRP	400.0000	IN. ZT
SCALE	.0030	

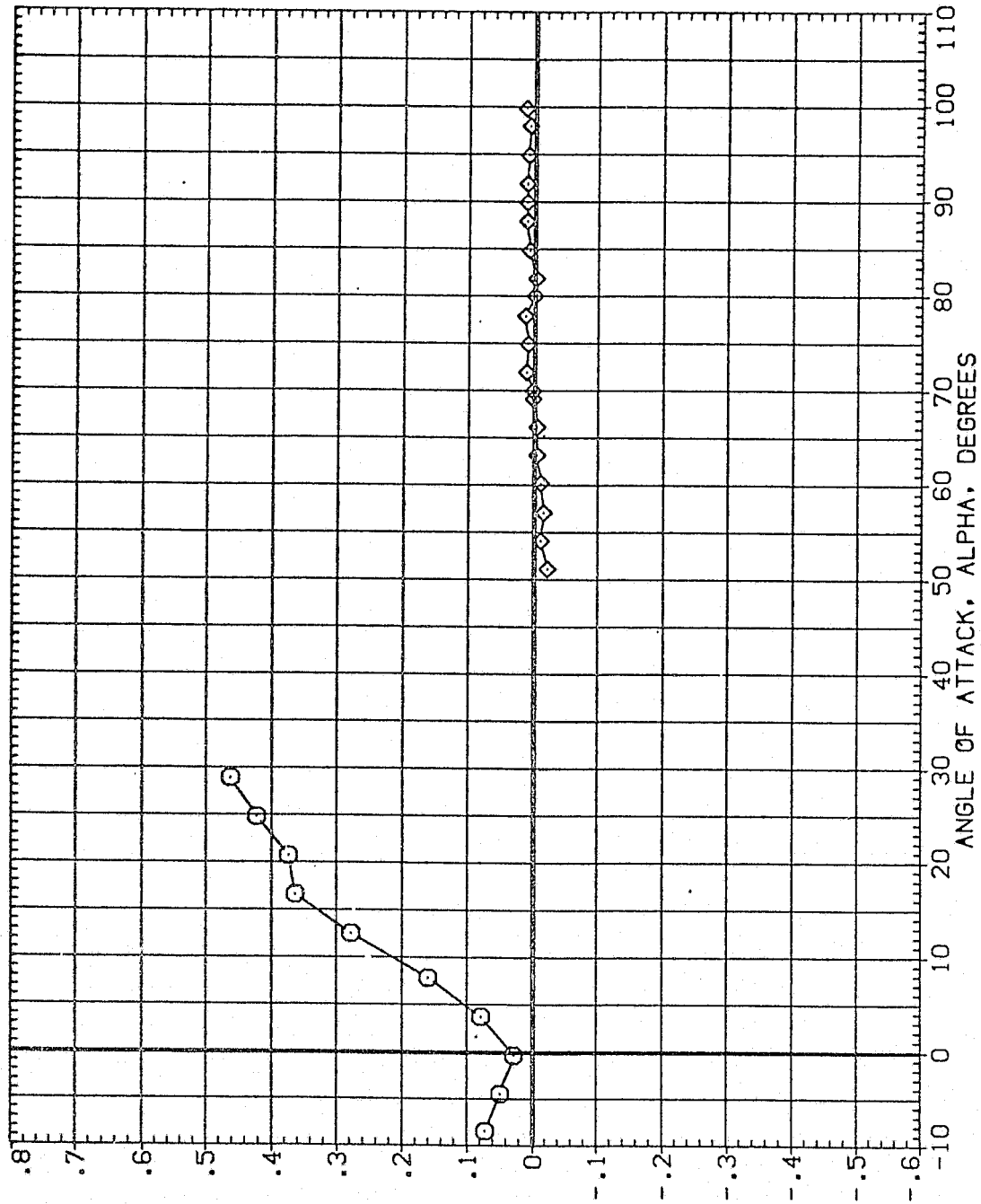


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CALMACH = 1.96

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# DATA SET SYMBOL

## CONFIGURATION DESCRIPTION

(J1A001) MSEC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
 (J1A003) DATA NOT AVAILABLE  
 (J1A005) MSEC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
 (J1A015) MSEC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

BETA PHI

.000 .000  
 .000 45.000  
 .000 90.000  
 .000 .000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

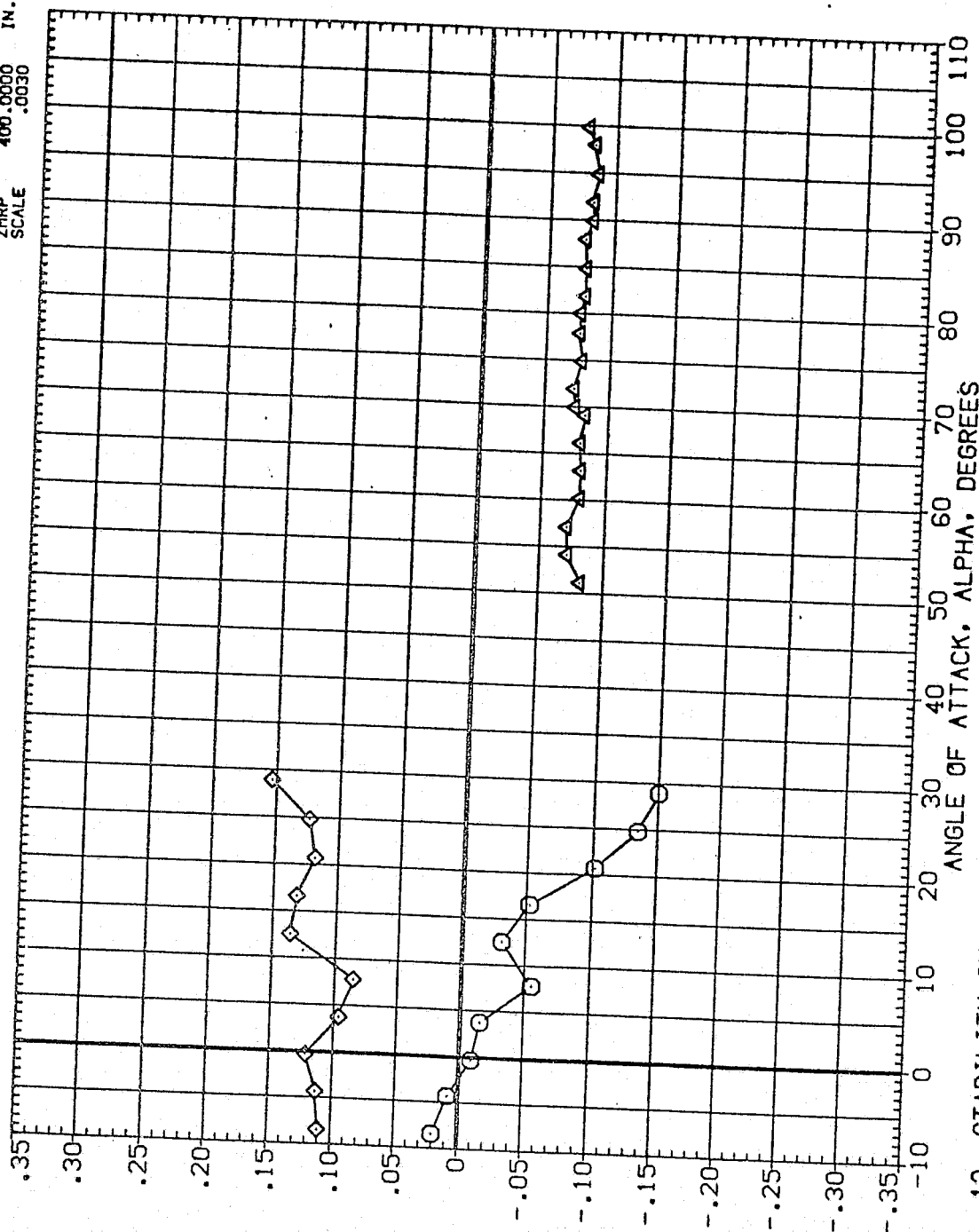


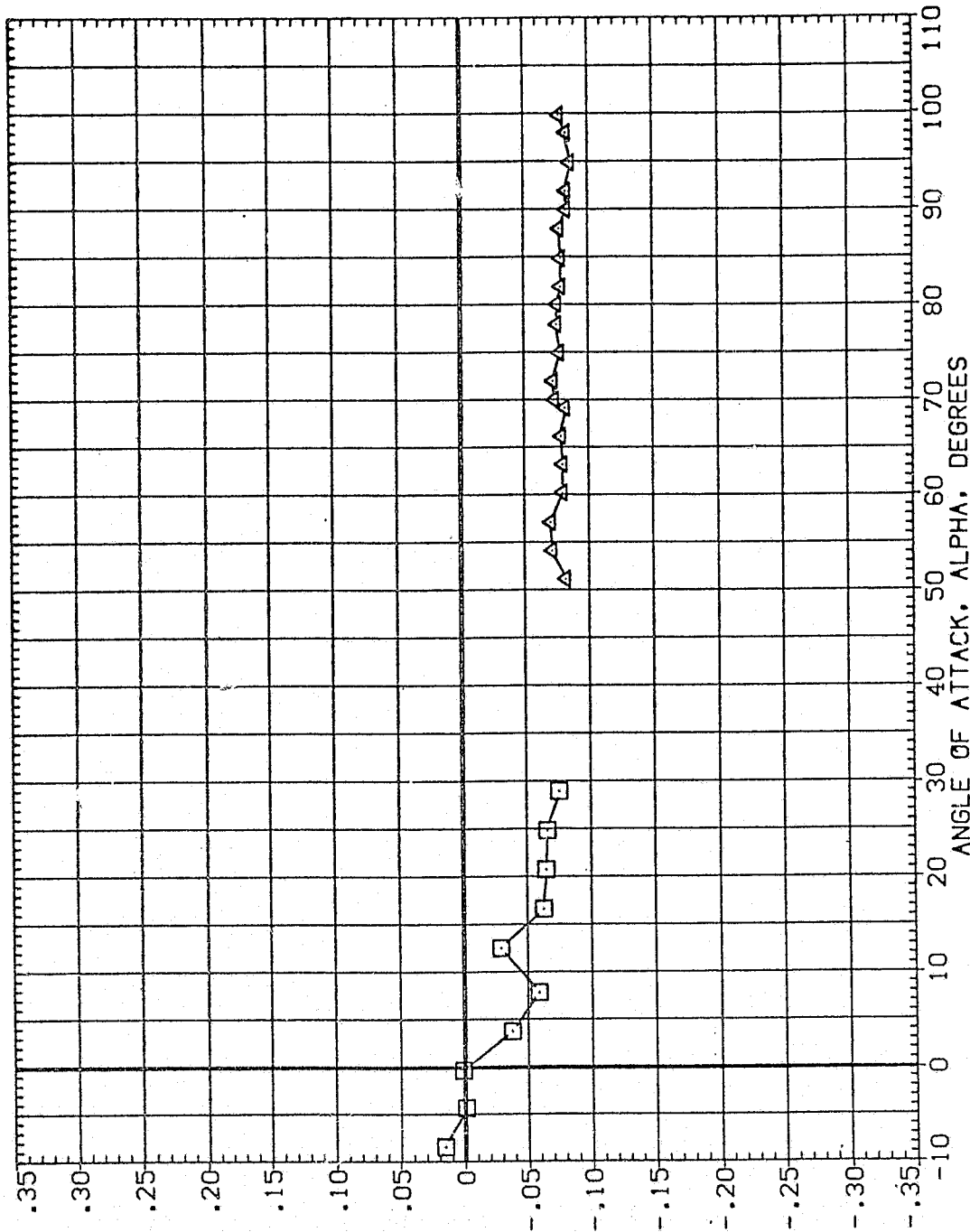
FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)  
 CA)MACH = 1.96

DATA SET SYMBS  
(J1A007)  
(J1A009)  
(J1A011)  
(J1A015)

CONFIGURATION DESCRIPTION  
DATA NOT AVAILABLE  
HSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
DATA NOT AVAILABLE  
HSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

BETA PHI  
.000 135.000  
.000 180.000  
.000 225.000  
.000 .000

REFERENCE INFORMATION  
SREF 572.5550 50. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XHRP 1086.4000 IN. XT  
YHRP .0000 IN. YT  
ZHRP 400.0000 IN. ZT  
SCALE .0030



YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

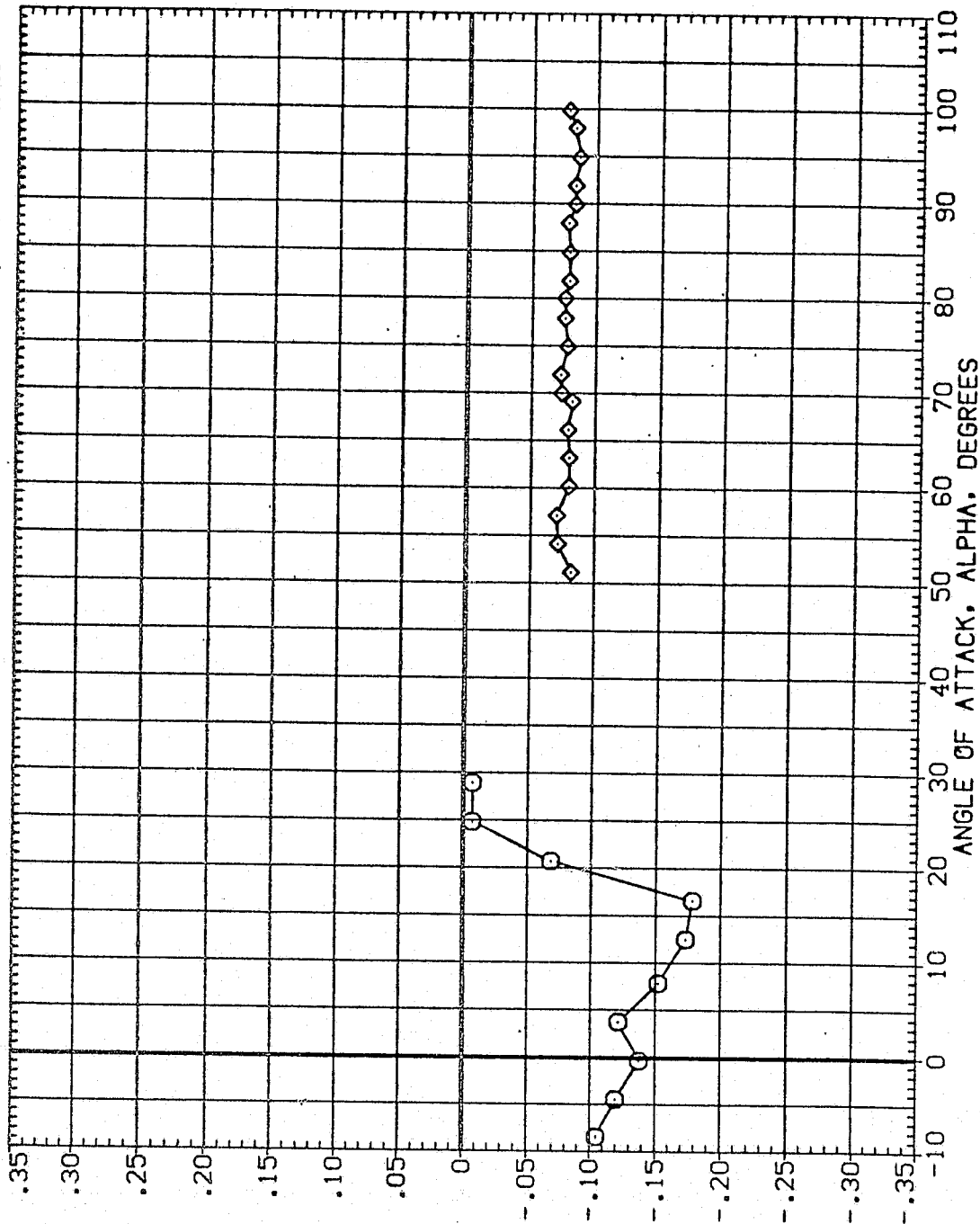
CAJMACH = 1.96

DATA SET SYMBOL  
(J1A013)  
(J1A018)  
(J1A015)

CONFIGURATION DESCRIPTION  
MSFC 596 (TA-2F) HCR0200 EXTERNAL TANK, T1  
DATA NOT AVAILABLE  
MSFC 596 (TA-2F) HCR0200 EXTERNAL TANK, T2

BETA PHI  
.000 270.000  
.000 315.000  
.000 .000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030

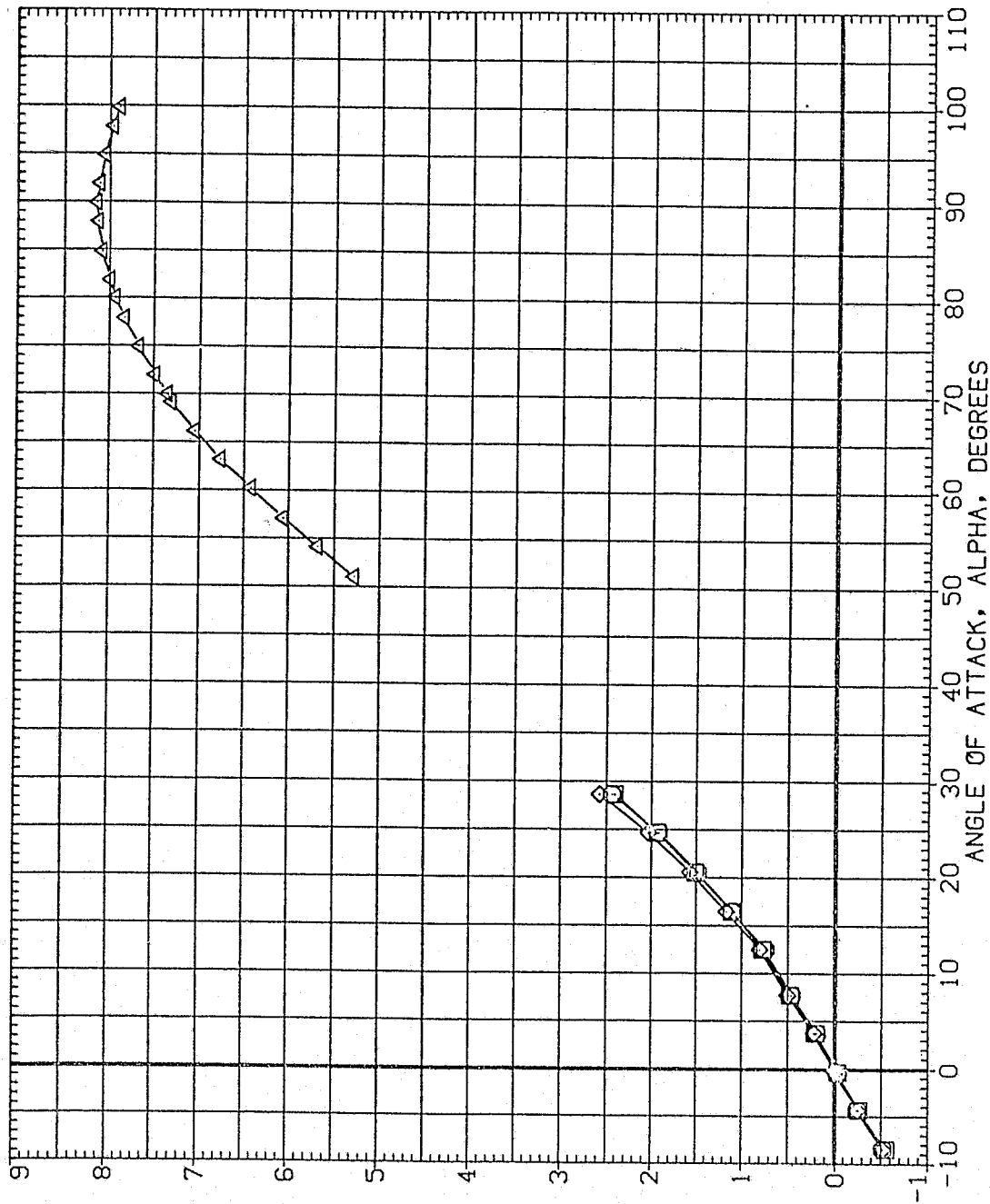


YAWING MOMENT COEFFICIENT IN MISSILE AXIS, C<sub>ym</sub>

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CAJ MACH = 1.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A001)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	.000	SREF 572.5550 50. FT
(J1A003)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	.000	LREF 324.0000 INCHES
(J1A005)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	.000	BREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	XHRP 1086.4000 IN. XT
				YHRP .0000 IN. YT
				ZHRP .0000 IN. ZT
				SCALE .0030



NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(A)MACH = 3.48

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATA SET SYMBOL CONFIGURATION DESCRIPTION  
 (J1A007) MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
 (J1A009) MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
 (J1A011) MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
 (J1A015) MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

BETA PHI  
 .000 135.000  
 .000 180.000  
 .000 225.000  
 .000 .000

REFERENCE INFORMATION  
 SREF 572.5550 SQ. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. X1  
 YMRP .0000 IN. Y1  
 ZMRP 400.0000 IN. Z1  
 SCALE .0030

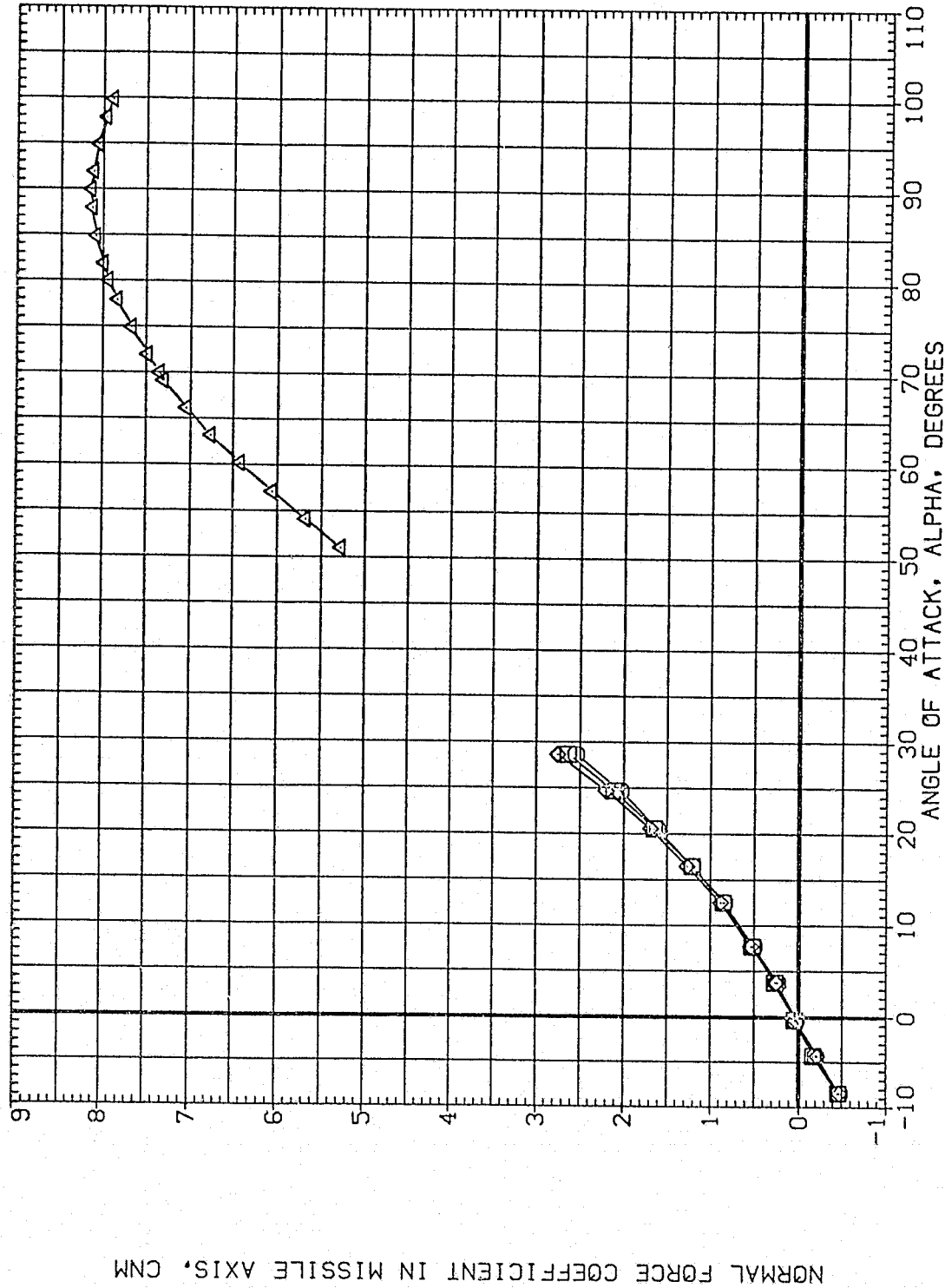


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(A)MACH = 3.48

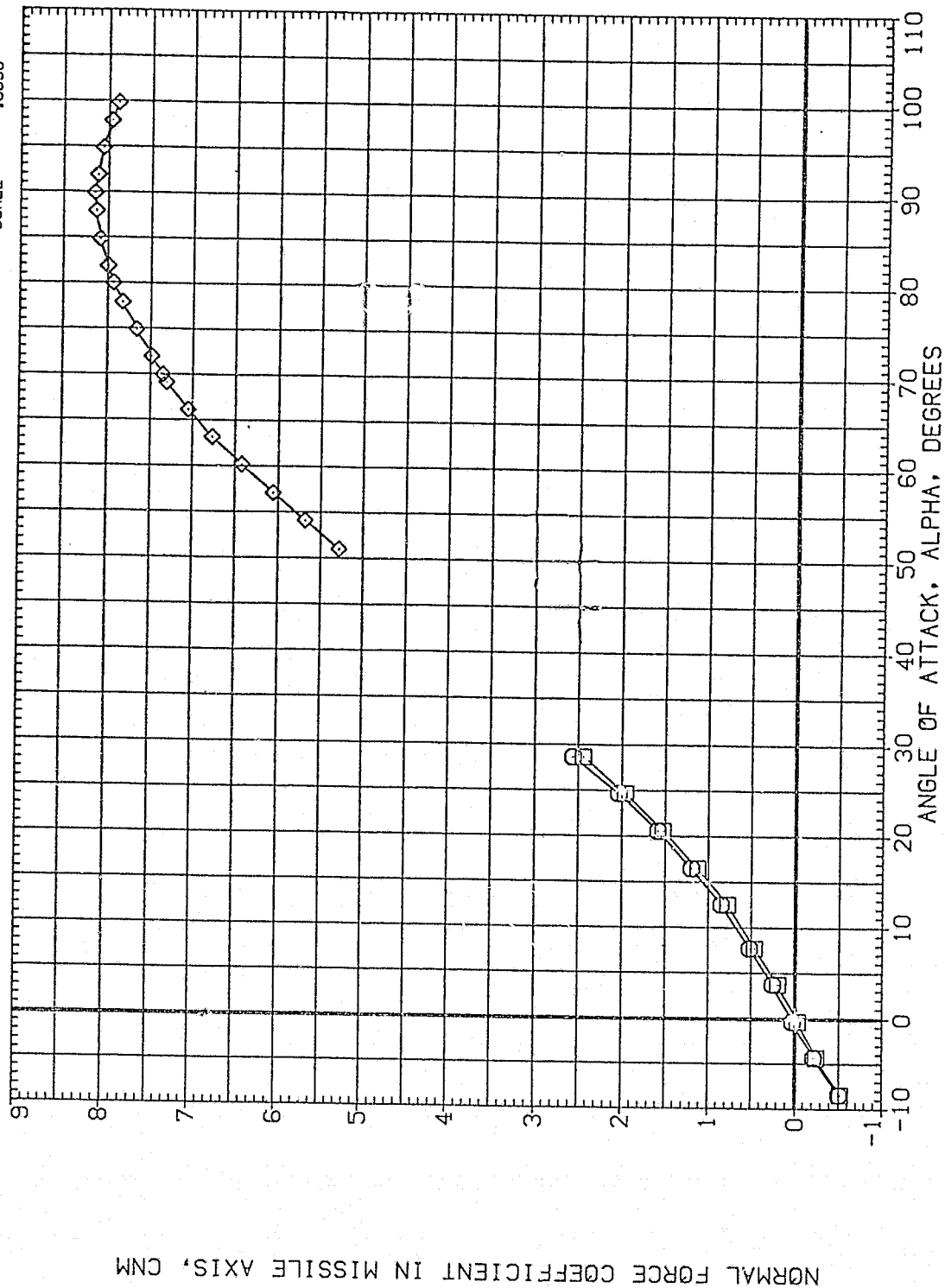


DATA SET SYMBOL  
(J1A013)  
(J1A018)  
(J1A015)

CONFIGURATION DESCRIPTION  
MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T2

BETA PHI  
.000 270.000  
.000 315.000  
.000 .000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030



NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(M)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A001)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	.000	SREF 572.5550 SQ. FT
(J1A003)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	45.000	LREF 324.0000 INCHES
(J1A005)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	90.000	BREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	YMRP 1086.4000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0030

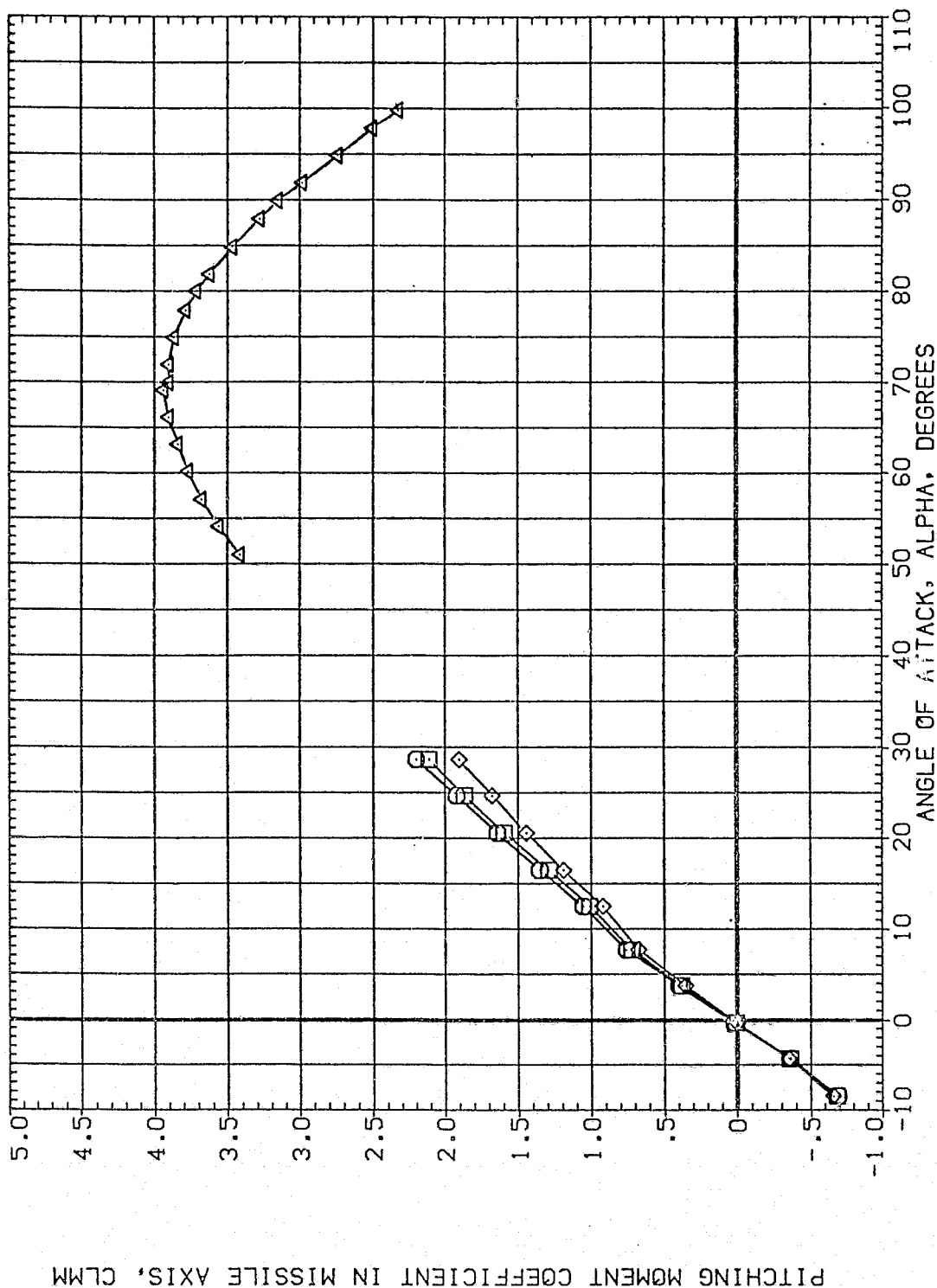


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(M)MACH = 3.48

DATA SET SYMBOL      CONFIGURATION DESCRIPTION      BETA      PHI      REFERENCE INFORMATION

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	SREF	572.5550	SO. FT
(J1A007)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	135.000	LREF	324.0000	INCHES
(J1A009)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	180.000	BREF	1086.4000	INCHES
(J1A011)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	225.000	XMRP	400.0000	IN. YI
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	ZMRP	400.0000	IN. YI
				SCALE	.0030	

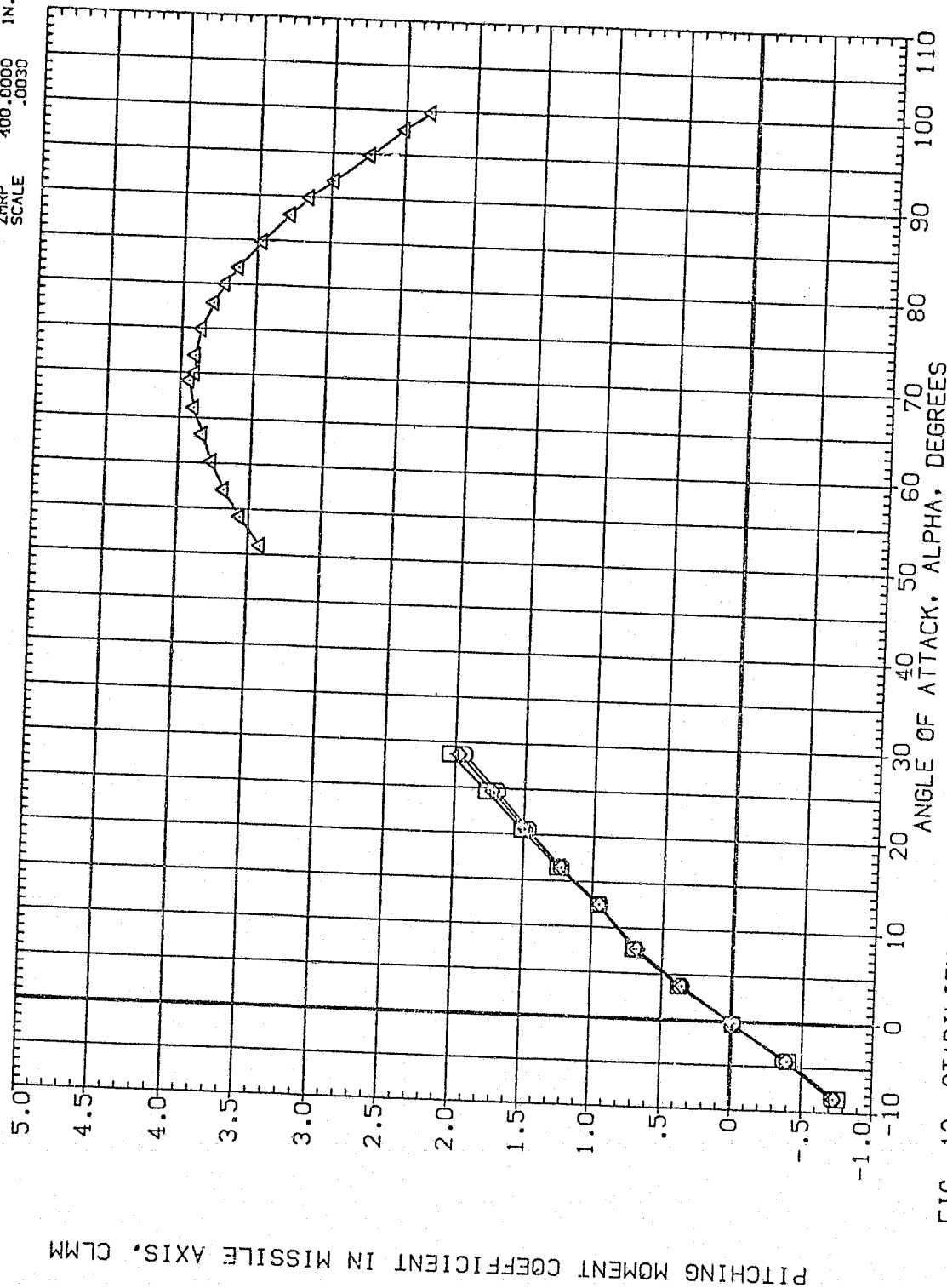


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

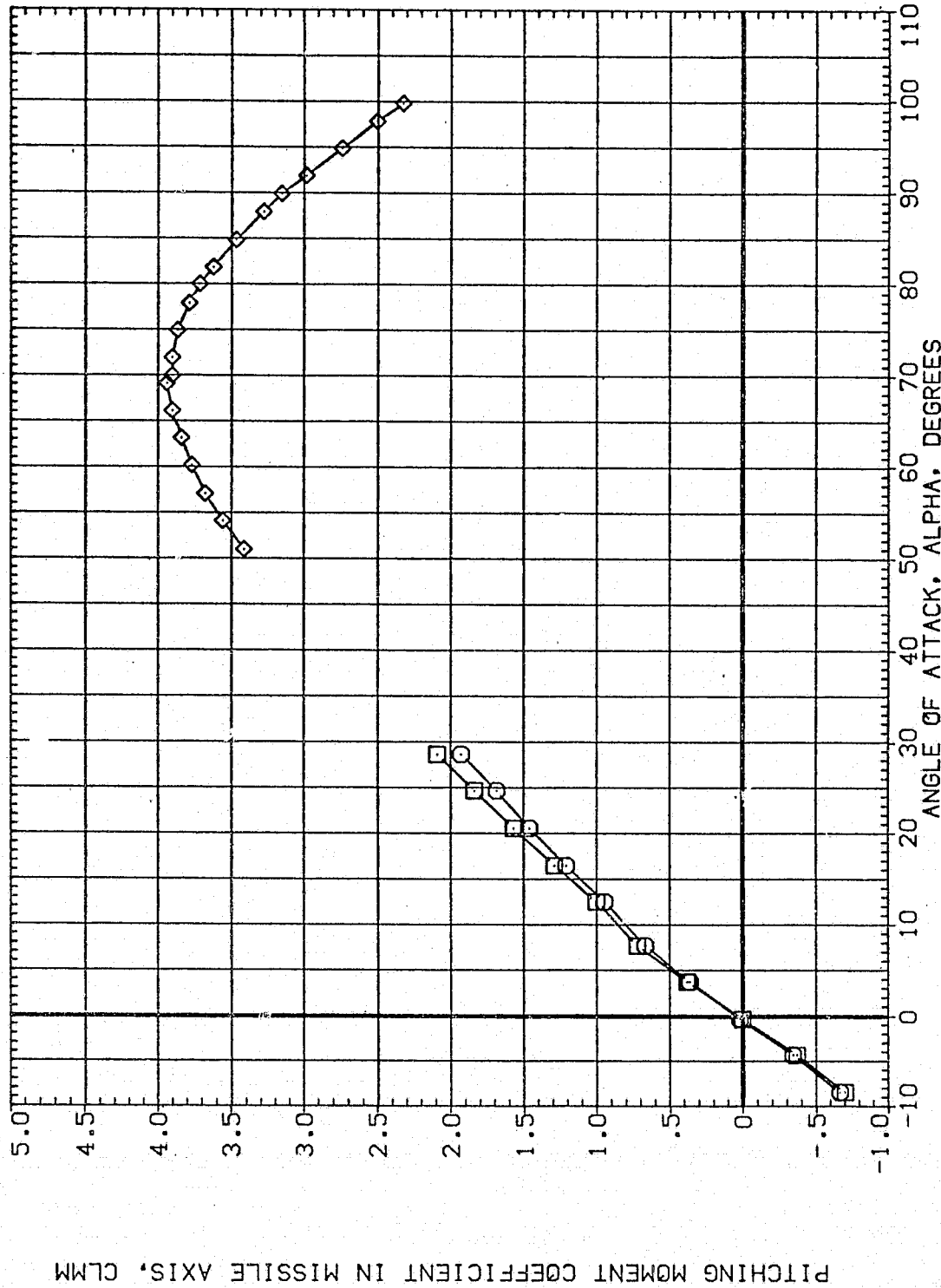
(A)MACH = 3.48

DATA SET SYMBOL  
(J1A013)  
(J1A018)  
(J1A015)

CONFIGURATION DESCRIPTION  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

BETA PHI  
.000 270.000  
.000 315.000  
.000 .000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030



PITCHING MOMENT COEFFICIENT IN MISSILE AXIS, CLMM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CAJ MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A001)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	.000	SREF 572.5550 50. FT
(J1A003)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	45.000	LREF 324.0000 INCHES
(J1A005)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	90.000	BREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	XMRP 1086.4000 IN. XT
				YMRP .0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0030

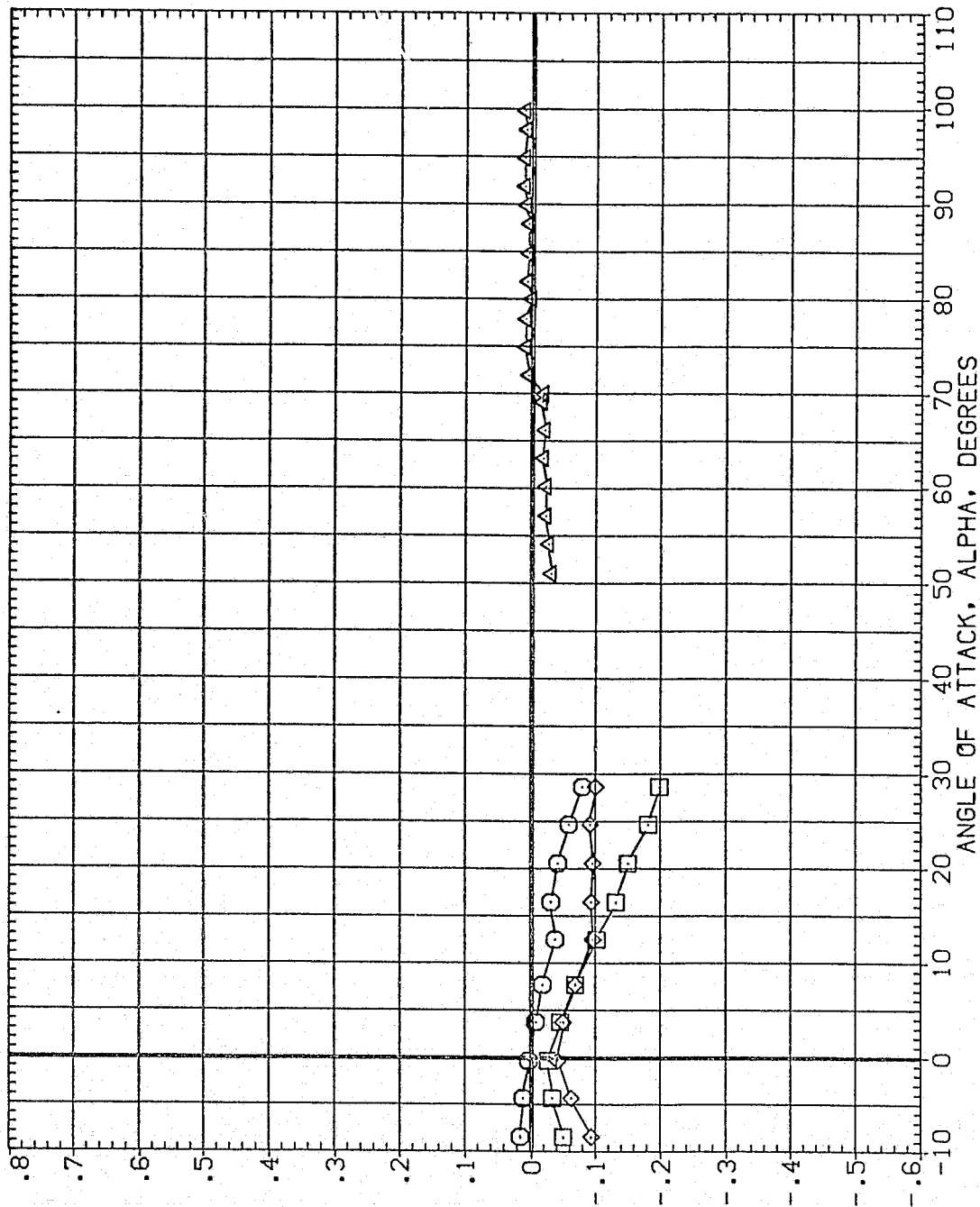


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(A)MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A007)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	135.000	SREF 572.5550 SQ. FT
(J1A009)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	180.000	LREF 324.0000 INCHES
(J1A011)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	225.000	BREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	XMRP 1086.4000 IN. XT
				YMRP .0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0030

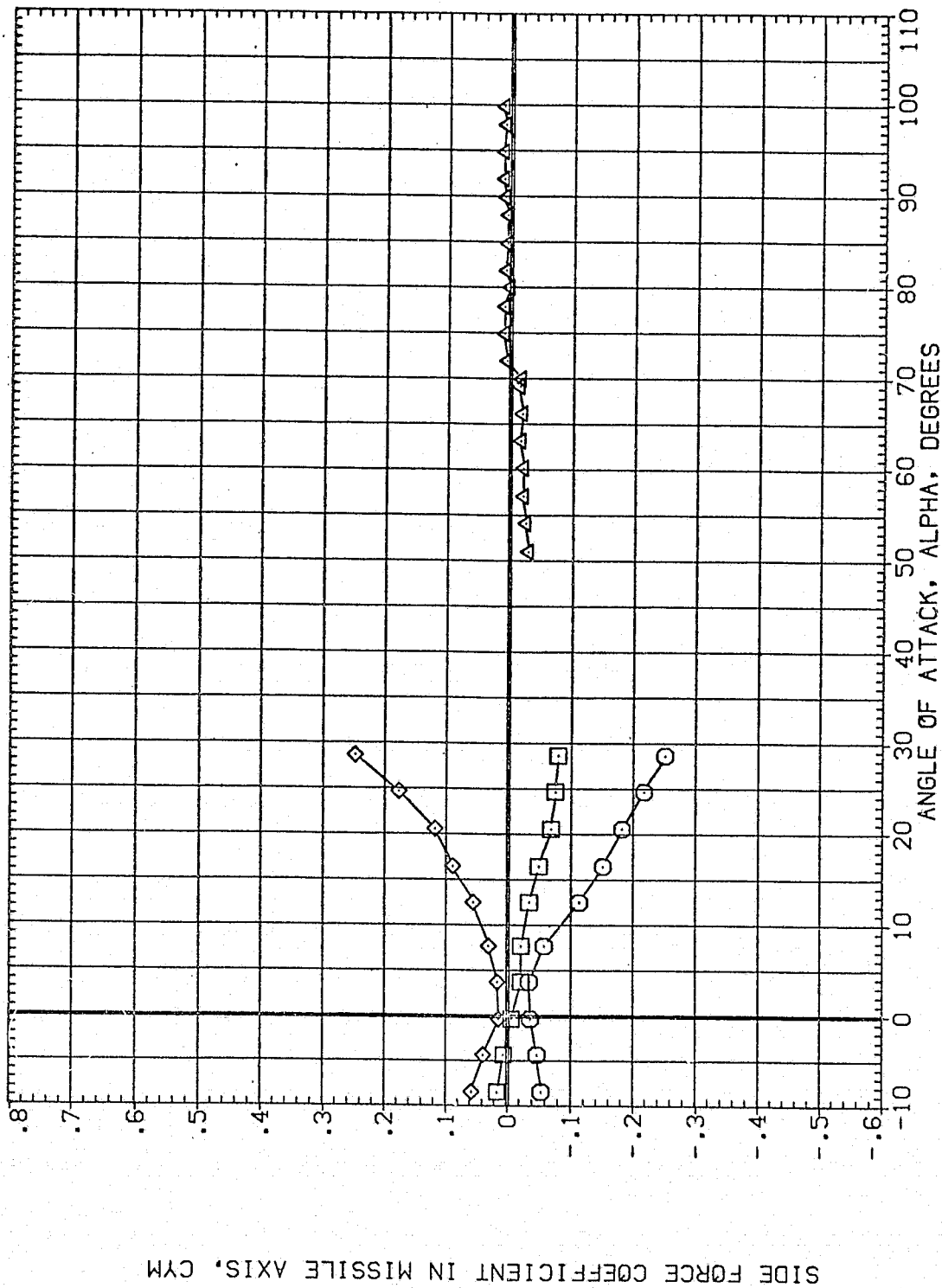


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CA/MACH = 3.48

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A013)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	270.000	SREF 572.5550 SQ. FT
(J1A018)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	315.000	LREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	BREF 324.0000 INCHES
				XMRP 1086.4000 IN. XT
				YMRP .0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0030

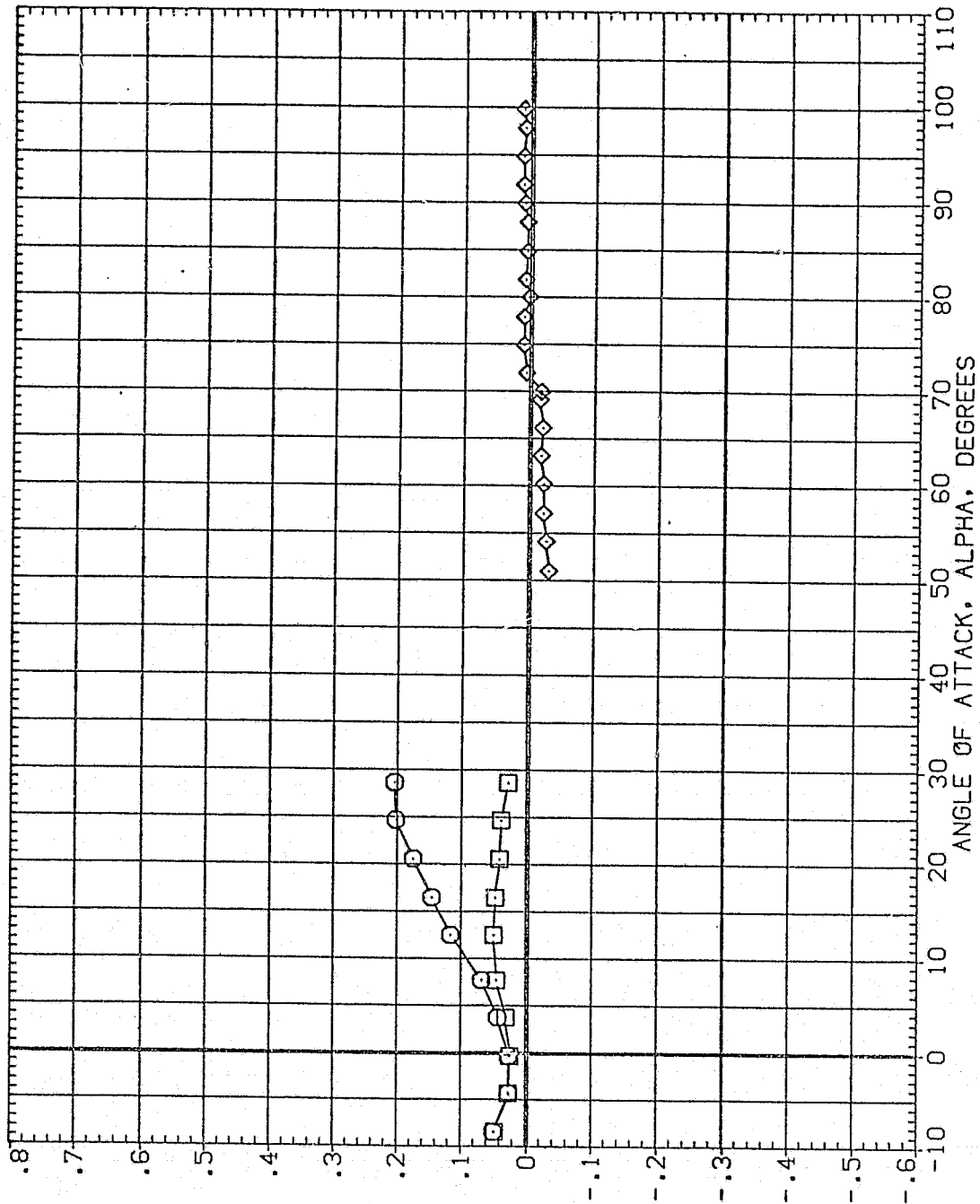


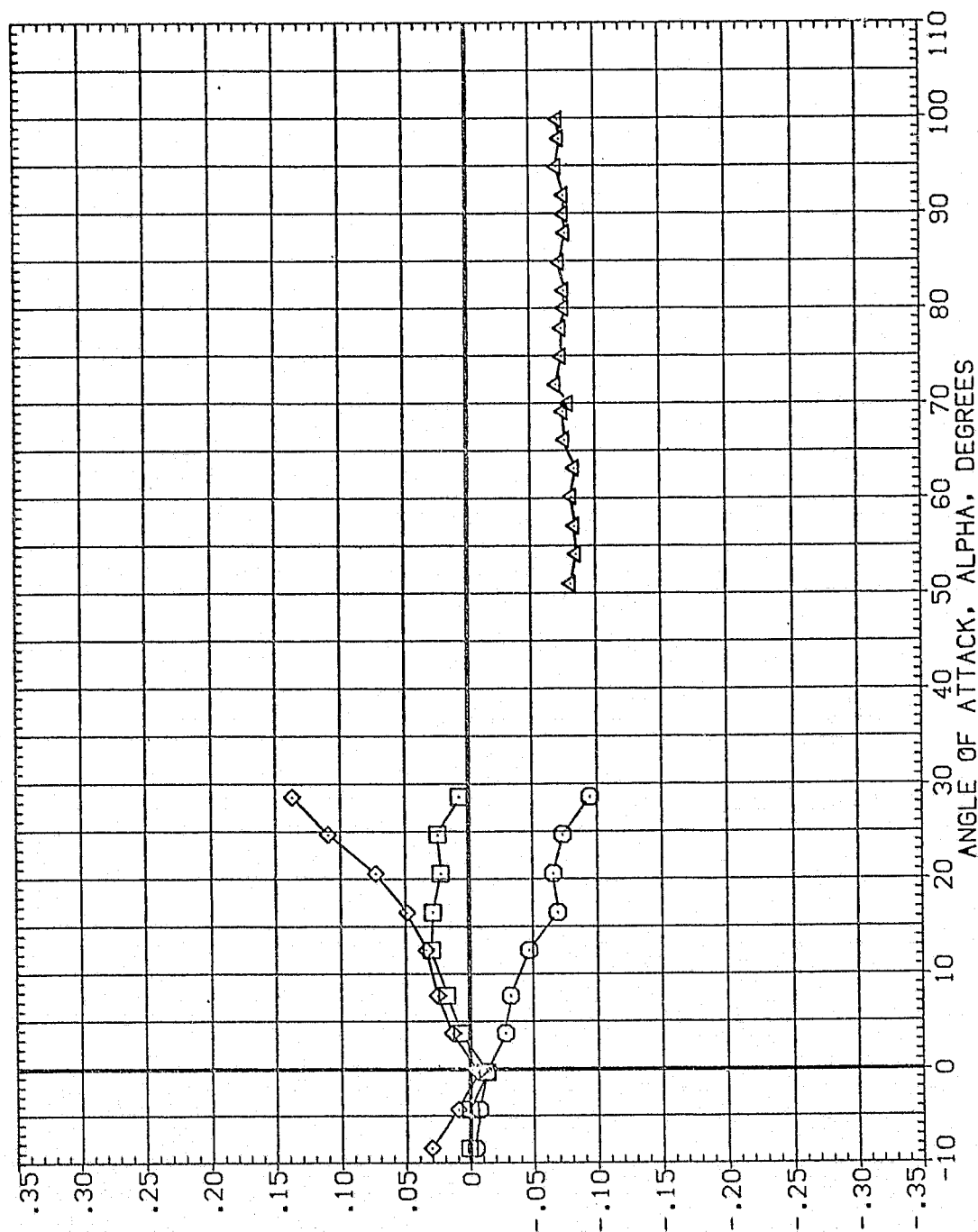
FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CA/MACH = 3.48

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REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A001)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	.000	SREF 572.5550 SQ. FT
(J1A003)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	45.000	LREF 324.0000 INCHES
(J1A005)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	90.000	BREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	XMRP 1086.4000 IN. XT
				YMRP .0000 IN. YT
				ZMRP .0000 IN. ZT
				SCALE .0030



YAWING MOMENT COEFFICIENT IN MISSILE AXIS, Cym

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CAJMACB = 3.48



DATA SET SYMBOL

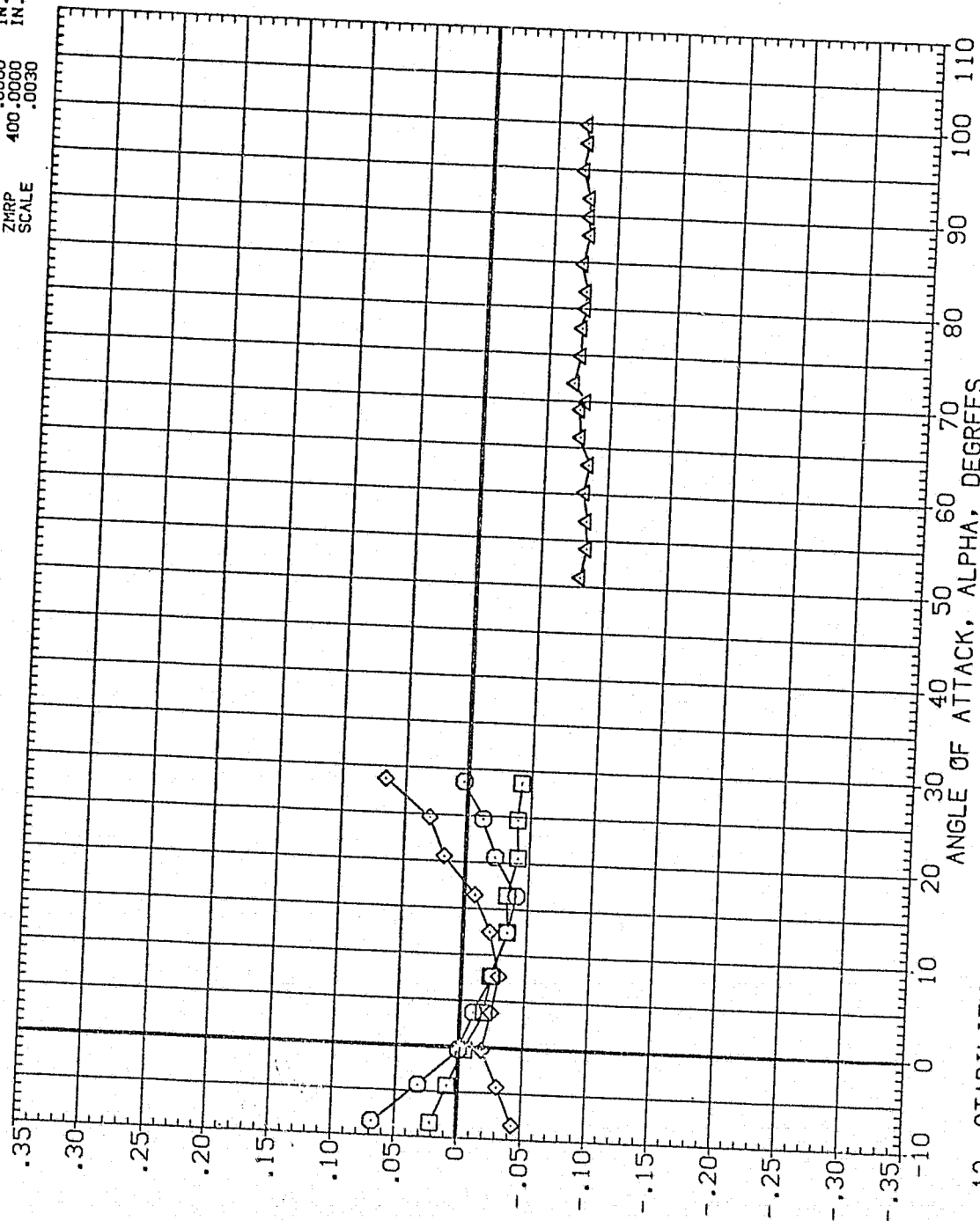
(J1A007)  
(J1A009)  
(J1A011)  
(J1A015)

CONFIGURATION DESCRIPTION

MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T2

BETA PHI  
.000 135.000  
.000 180.000  
.000 225.000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030



YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(A)MACH = 3.48

DATA SET SYMBOL      CONFIGURATION DESCRIPTION      BETA      PHI

(J1A013)      MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1      .000      270.000

(J1A018)      MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1      .000      315.000

(J1A015)      MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2      .000      .000

REFERENCE INFORMATION

SREF      572.5550      SQ. FT

LREF      324.0000      INCHES

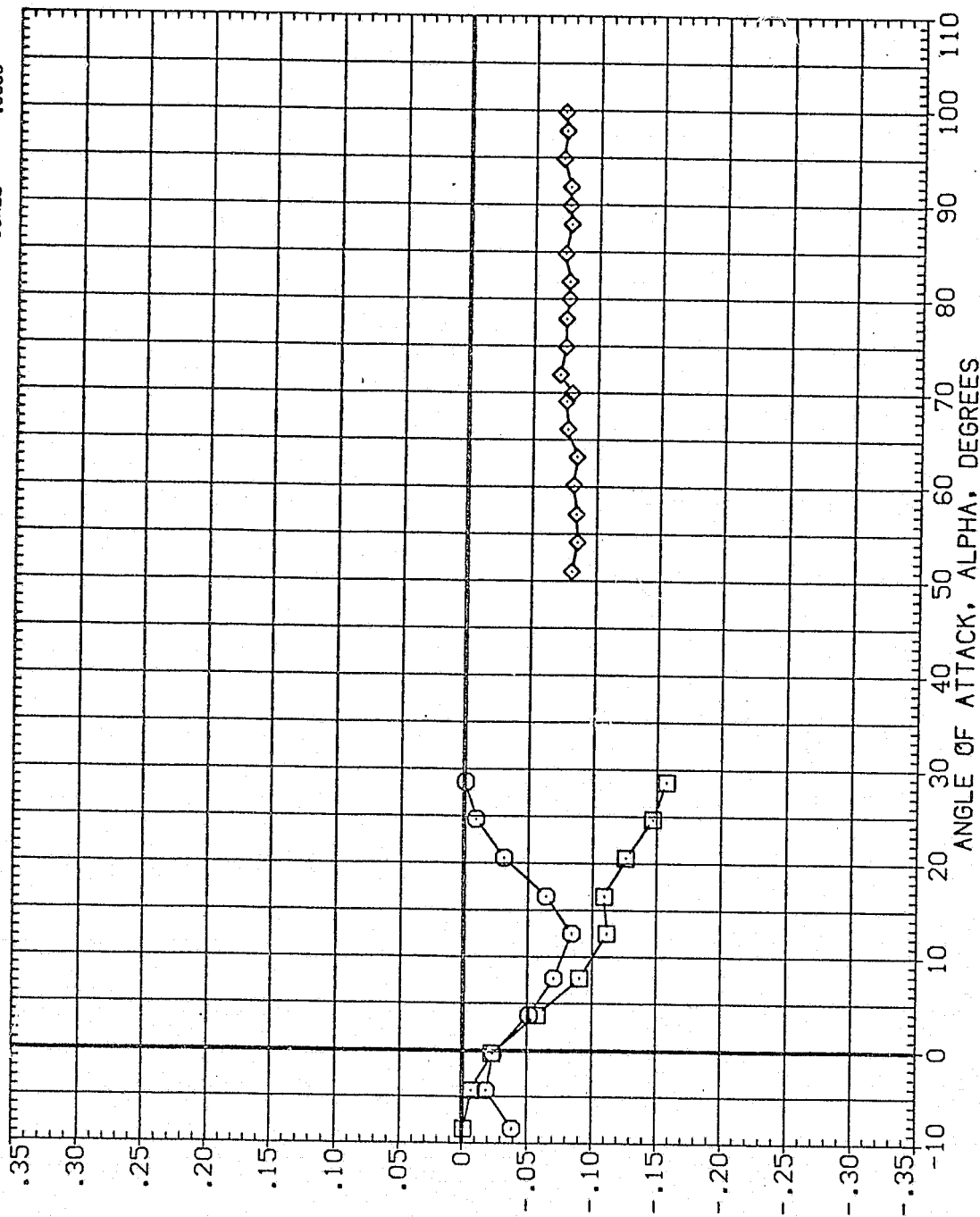
BREF      324.0000      INCHES

XMRP      1086.4000      IN. YI

YMRP      .0000      IN. YI

ZMRP      400.0000      IN. ZI

SCALE      .0030



YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYNM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CAJMACH = 3.48

# DATA SET SYMBOL

(J1A001) MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T1  
 (J1A003) MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T1  
 (J1A005) MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T1  
 (J1A015) MSFC 596 (TA-2F) MICRO200 EXTERNAL TANK, T2

## BETA

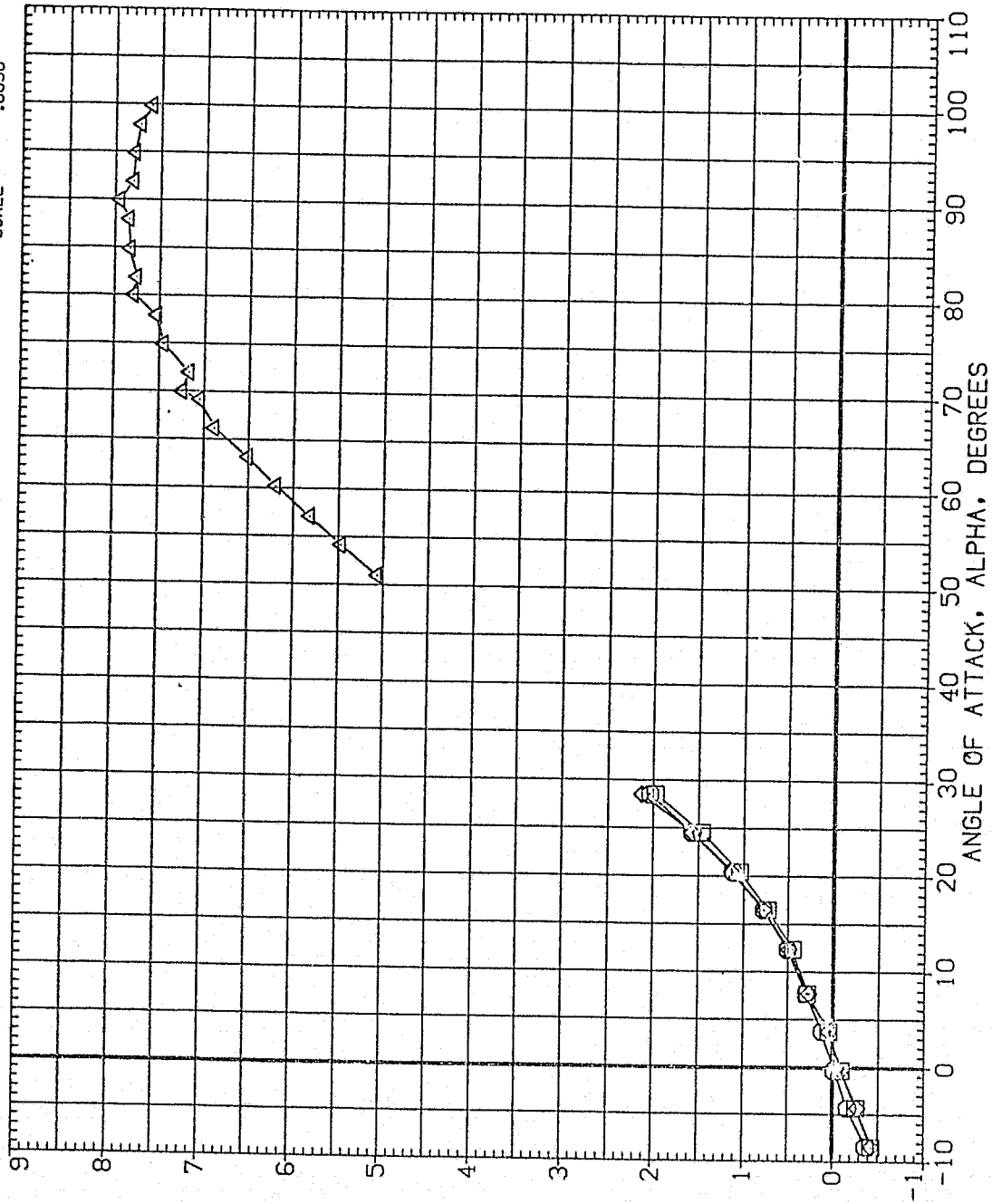
.000  
 .000  
 .000  
 .000

## PHI

.000  
 45.000  
 90.000  
 .000

## REFERENCE INFORMATION

SREF 572.5550 SO. FT  
 LREF 324.0000 INCHES  
 BREF 324.0000 INCHES  
 XMRP 1086.4000 IN. XT  
 YMRP .0000 IN. YT  
 ZMRP 400.0000 IN. ZT  
 SCALE .0030

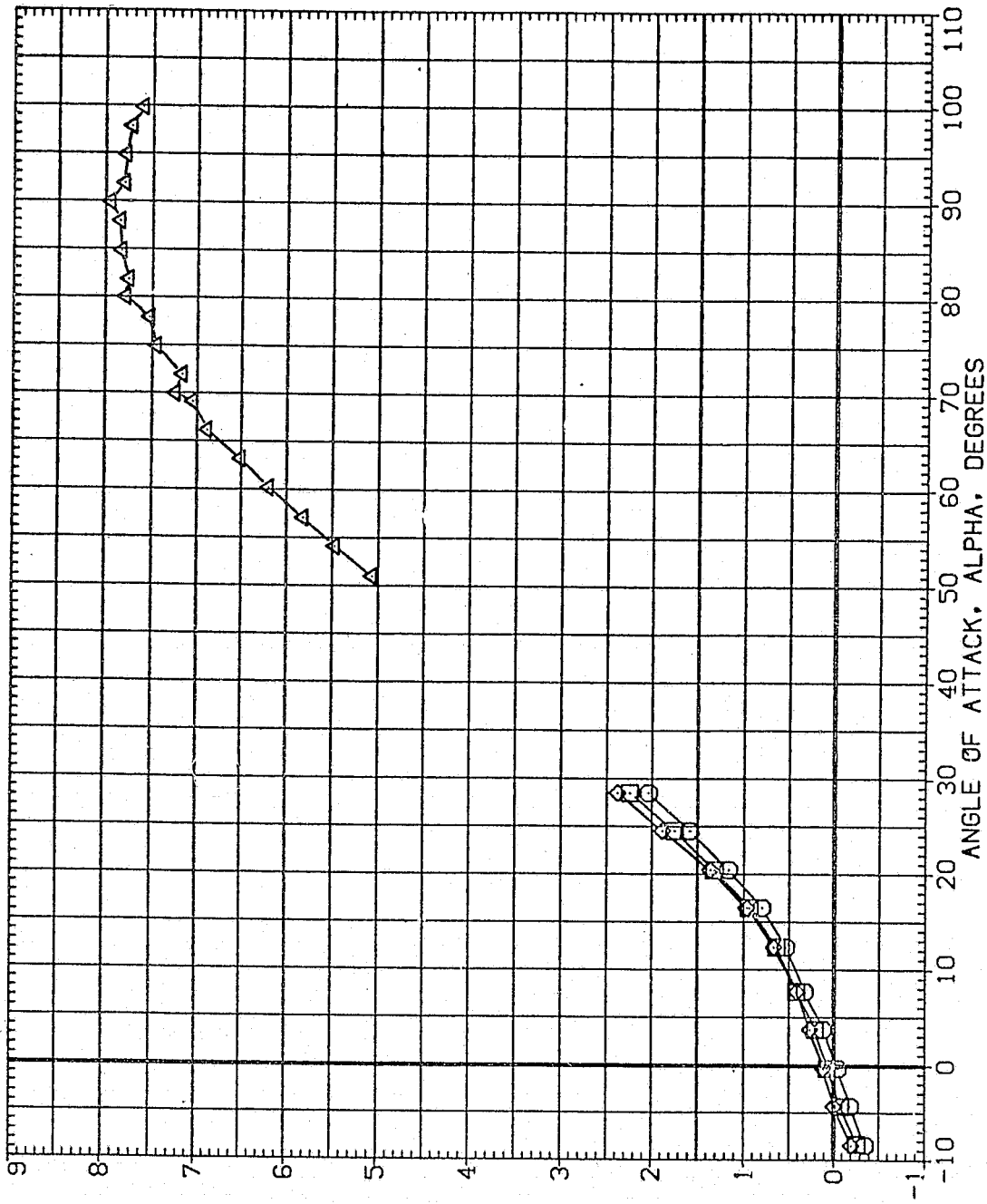


NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(A)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A007)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	135.000	SREF 572.5550 SO. FT
(J1A009)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	180.000	LREF 324.0000 INCHES
(J1A011)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	225.000	BREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	XMRP 1086.4000 IN. XT
				YMRP .0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0030



NORMAL FORCE COEFFICIENT IN MISSILE AXIS, CNM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)  
 (A)MACH = 4.96  
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DATA SET SYMBOL

(J1A013)  
(J1A018)  
(J1A015)

CONFIGURATION DESCRIPTION

MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

BETA PHI

.000 270.000  
.000 315.000  
.000 .000

REFERENCE INFORMATION

SREF 572.5550 SO. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030

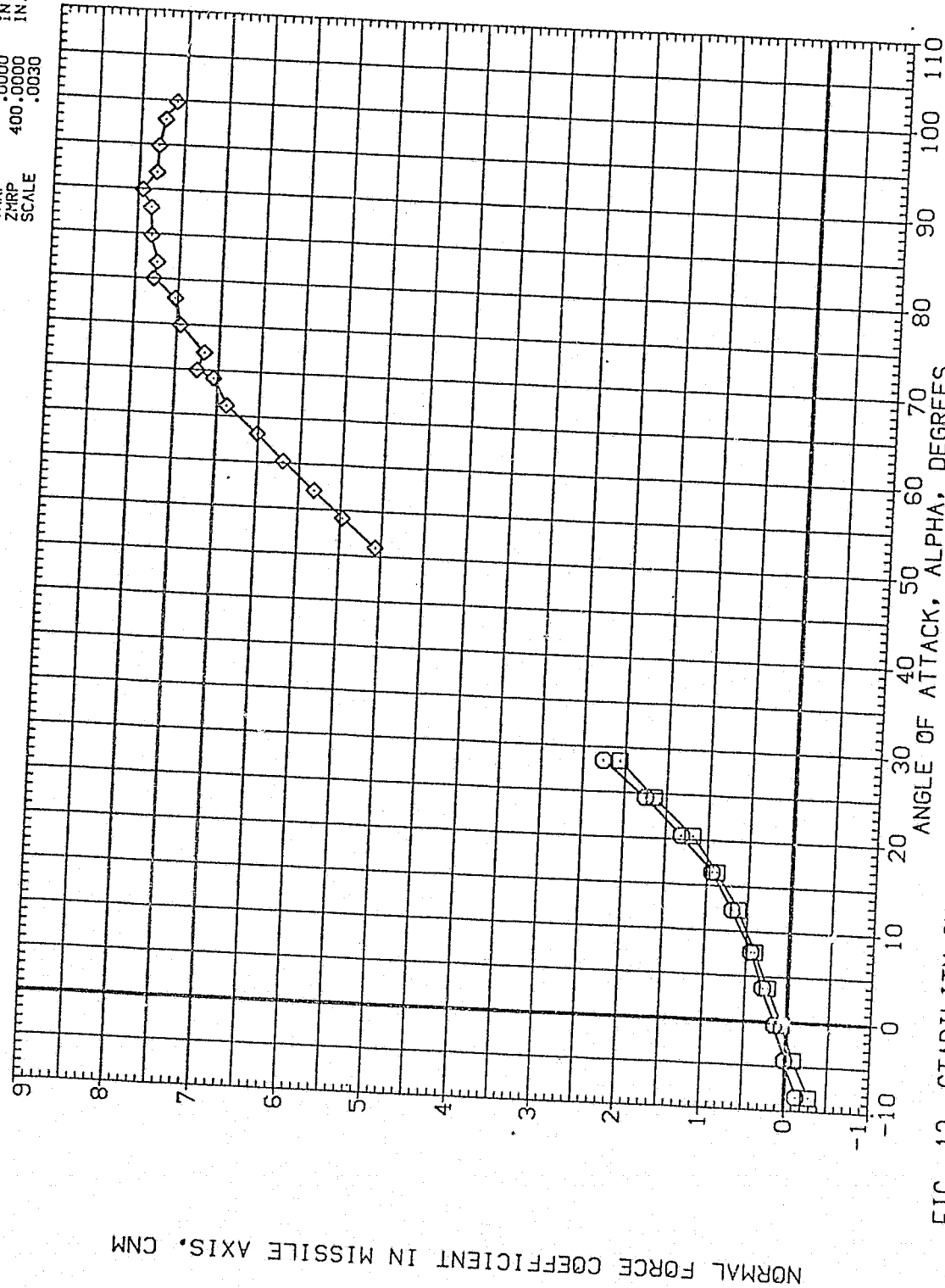


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CA/MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A001)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	.000	SREF 572.5550 SQ. FT
(J1A003)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	45.000	LREF 324.0000 INCHES
(J1A005)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	90.000	BREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	XMRP 1086.4000 IN. YI
				YMRP .0000 IN. ZI
				ZMRP 400.0000 IN. ZI
				SCALE .0030

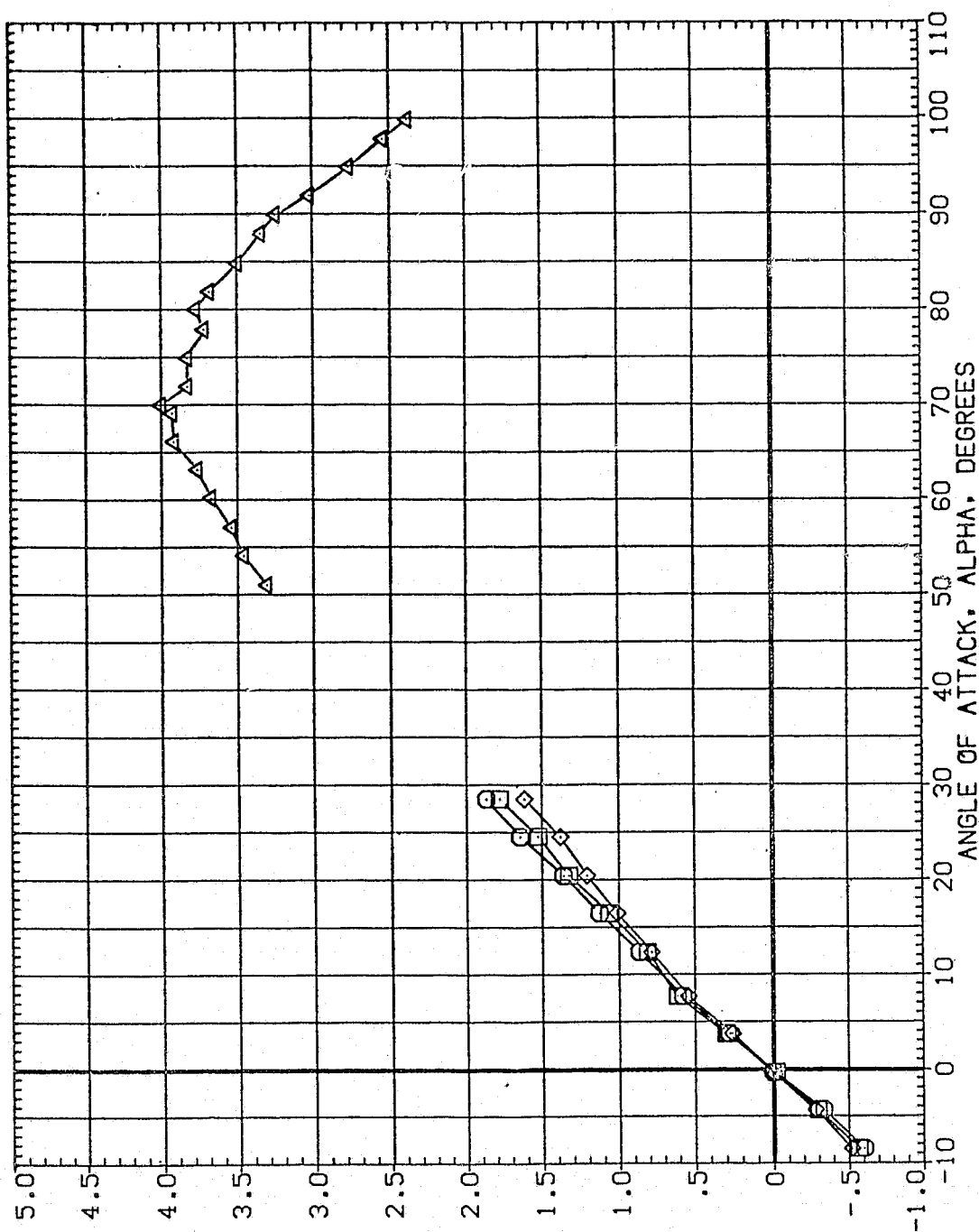


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CAJMACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	TANK, T1	TANK, T2	BETA	PHI	REFERENCE INFORMATION
(J1A07)	MSFC 596 (TA-2F) MCR0200 EXTERNAL	T1		.000	135.000	SREF 572.5550 SO. FT
(J1A09)	MSFC 596 (TA-2F) MCR0200 EXTERNAL	T1		.000	180.000	LREF 324.0000 INCHES
(J1A011)	MSFC 596 (TA-2F) MCR0200 EXTERNAL	T1		.000	225.000	BREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL	T2		.000	.000	XMRP 1385.4000 IN. XT
				.000	.000	YMRP .0000 IN. YT
				.000	.000	ZMRP .0000 IN. ZT
				.000	.000	SCALE 400.0000

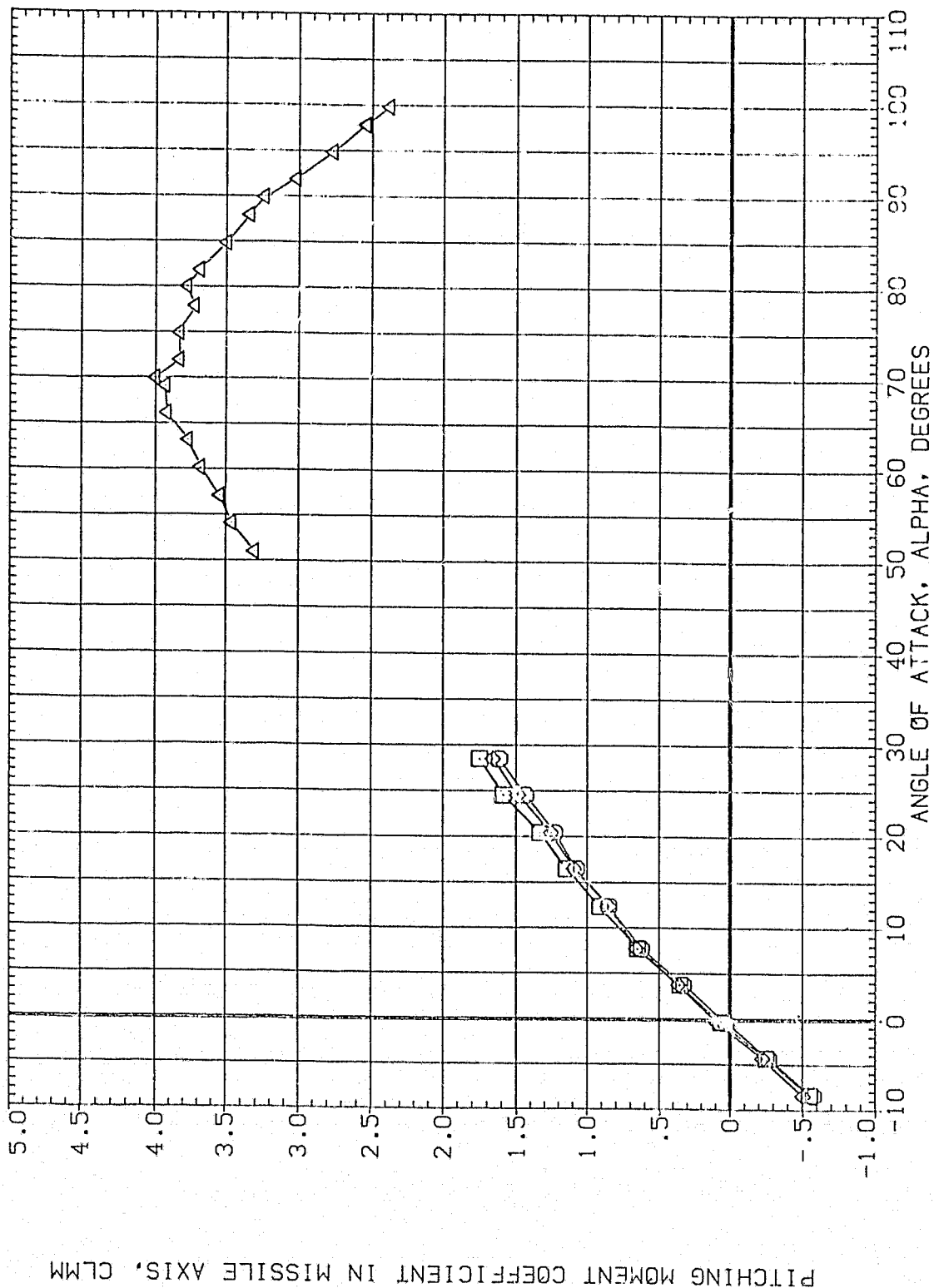


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(M)MACH = 4.96

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REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A013)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	270.000	SREF 572.5550 SQ. FT
(J1A018)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	315.000	LREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	BREF 324.0000 INCHES
				XMRP 1086.4000 IN. XT
				YMRP .0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0030

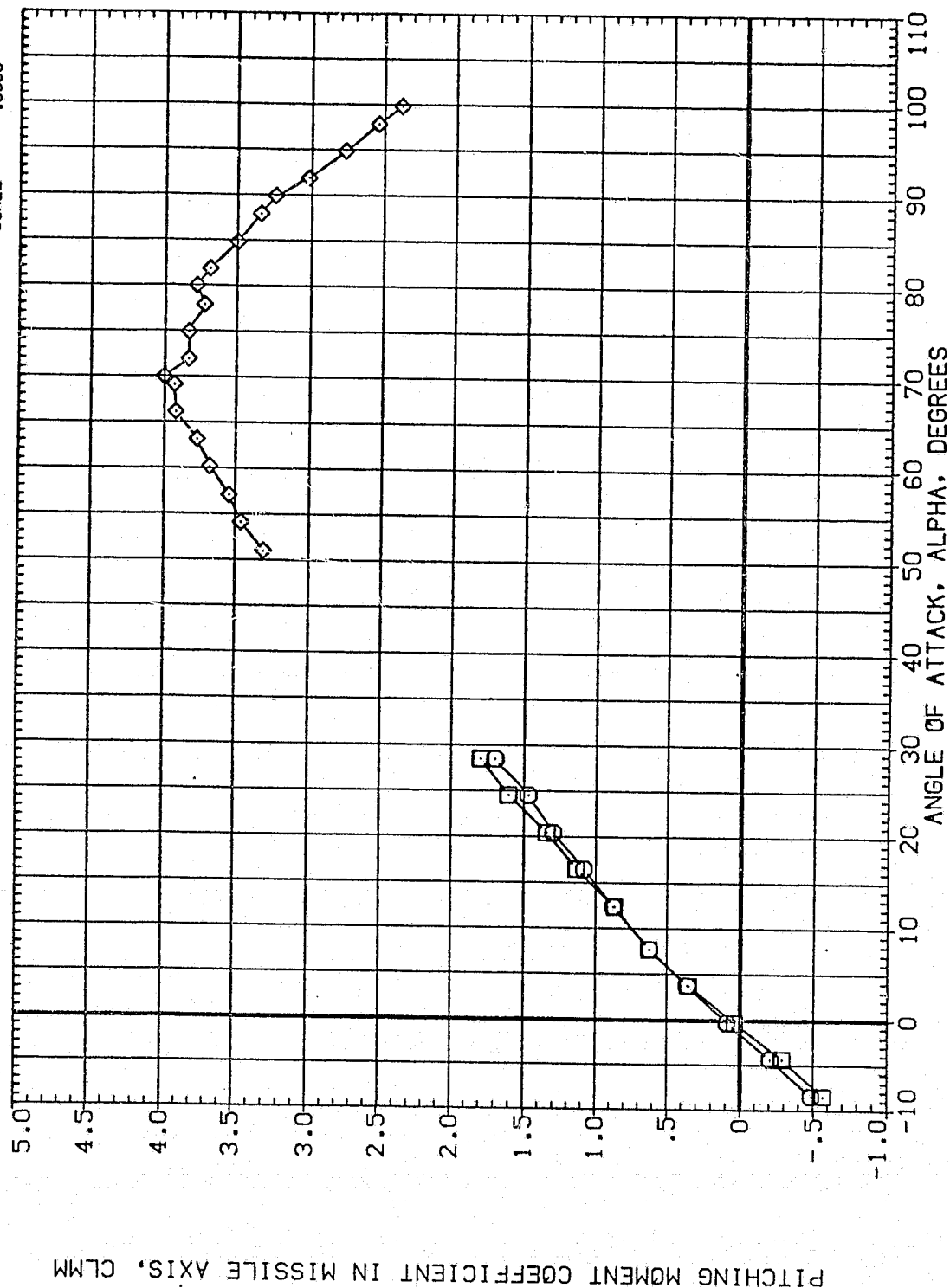


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(A)MACH = 4.96



DATA SET SYMBOL CONFIGURATION DESCRIPTION

(J1A001)  
(J1A003)  
(J1A005)  
(J1A015)

MSFC 596 (TA-2F) MGR0200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MGR0200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MGR0200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MGR0200 EXTERNAL TANK, T2

BETA PHI  
.000 .000  
.000 45.000  
.000 90.000  
.000 .000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
YMRP 1086.4000 IN. XT  
ZMRP .0000 IN. YT  
SCALE 400.0000 IN. ZT

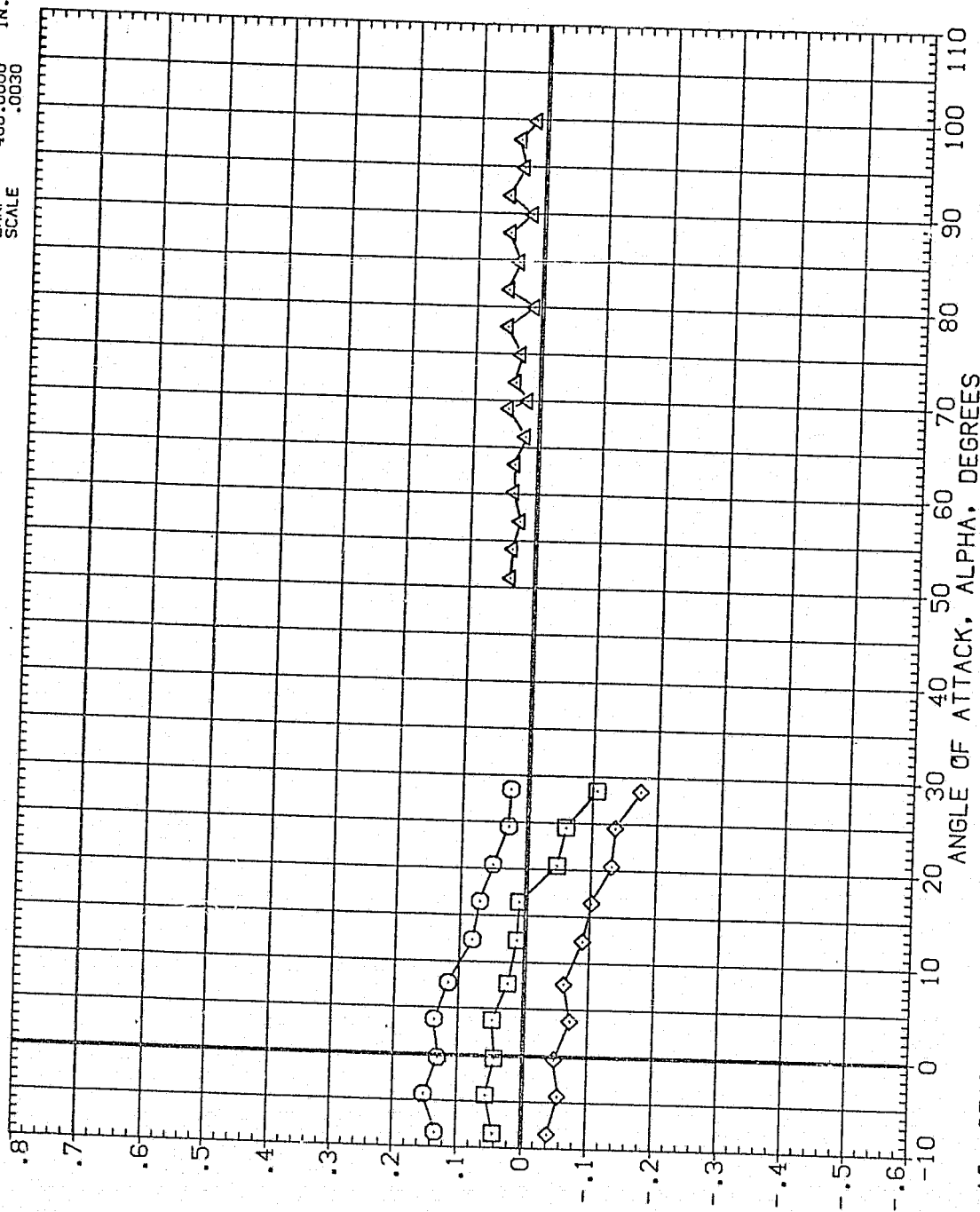


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CAJMACB = 4.96

SIDE FORCE COEFFICIENT IN MISSILE AXIS, C<sub>YM</sub>

DATA SET SYMBOL

(J1A007)  
(J1A009)  
(J1A011)  
(J1A015)

□  
△  
◇  
○

CONFIGURATION DESCRIPTION

MSFC 586 (TA-2F) MICRO200 EXTERNAL TANK, T1  
MSFC 586 (TA-2F) MICRO200 EXTERNAL TANK, T1  
MSFC 586 (TA-2F) MICRO200 EXTERNAL TANK, T1  
MSFC 586 (TA-2F) MICRO200 EXTERNAL TANK, T2

BETA

.000 135.000  
.000 180.000  
.000 225.000  
.000

PHI

REFERENCE INFORMATION

SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. XT  
YMRP .0000 IN. YT  
ZMRP 400.0000 IN. ZT  
SCALE .0030

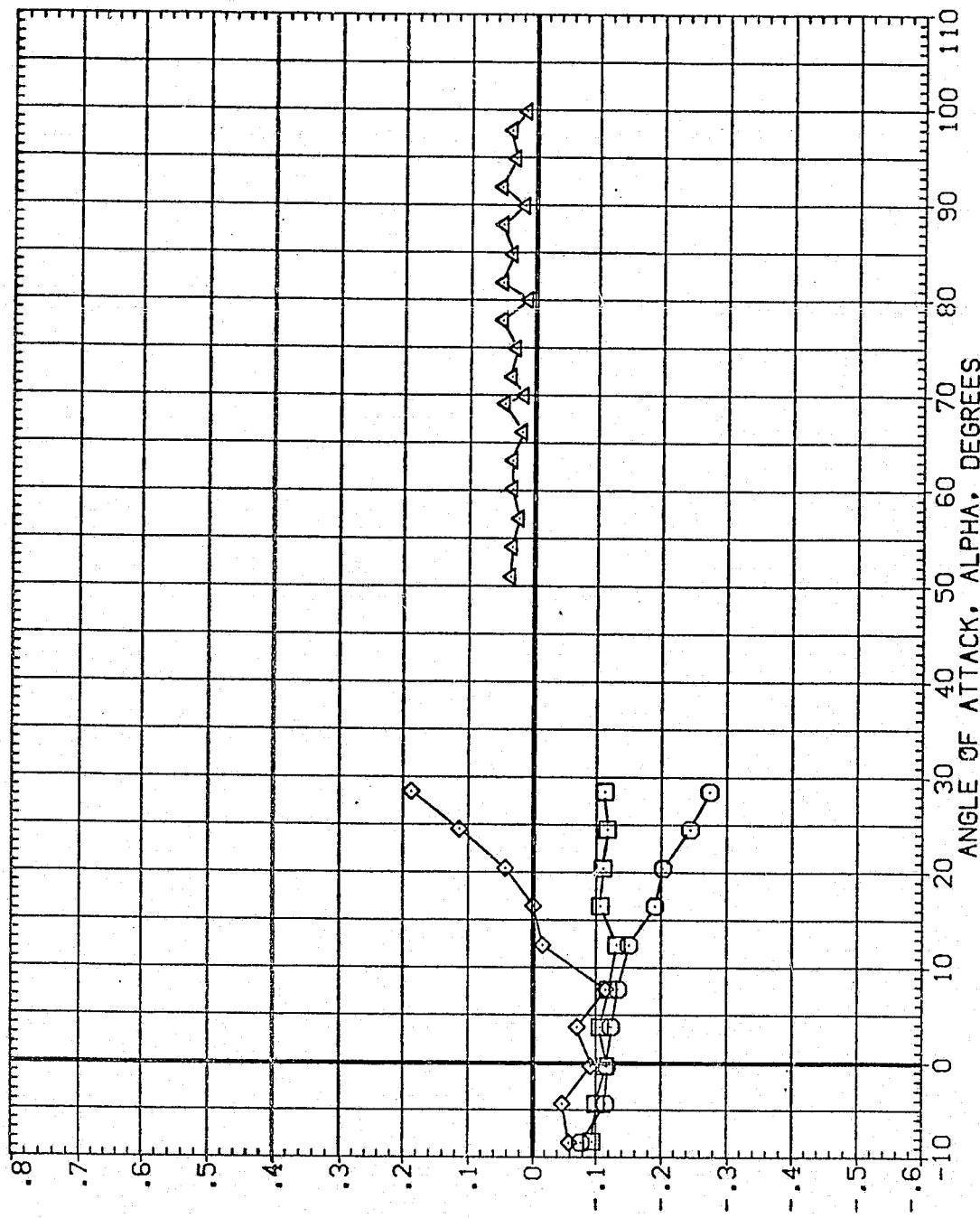


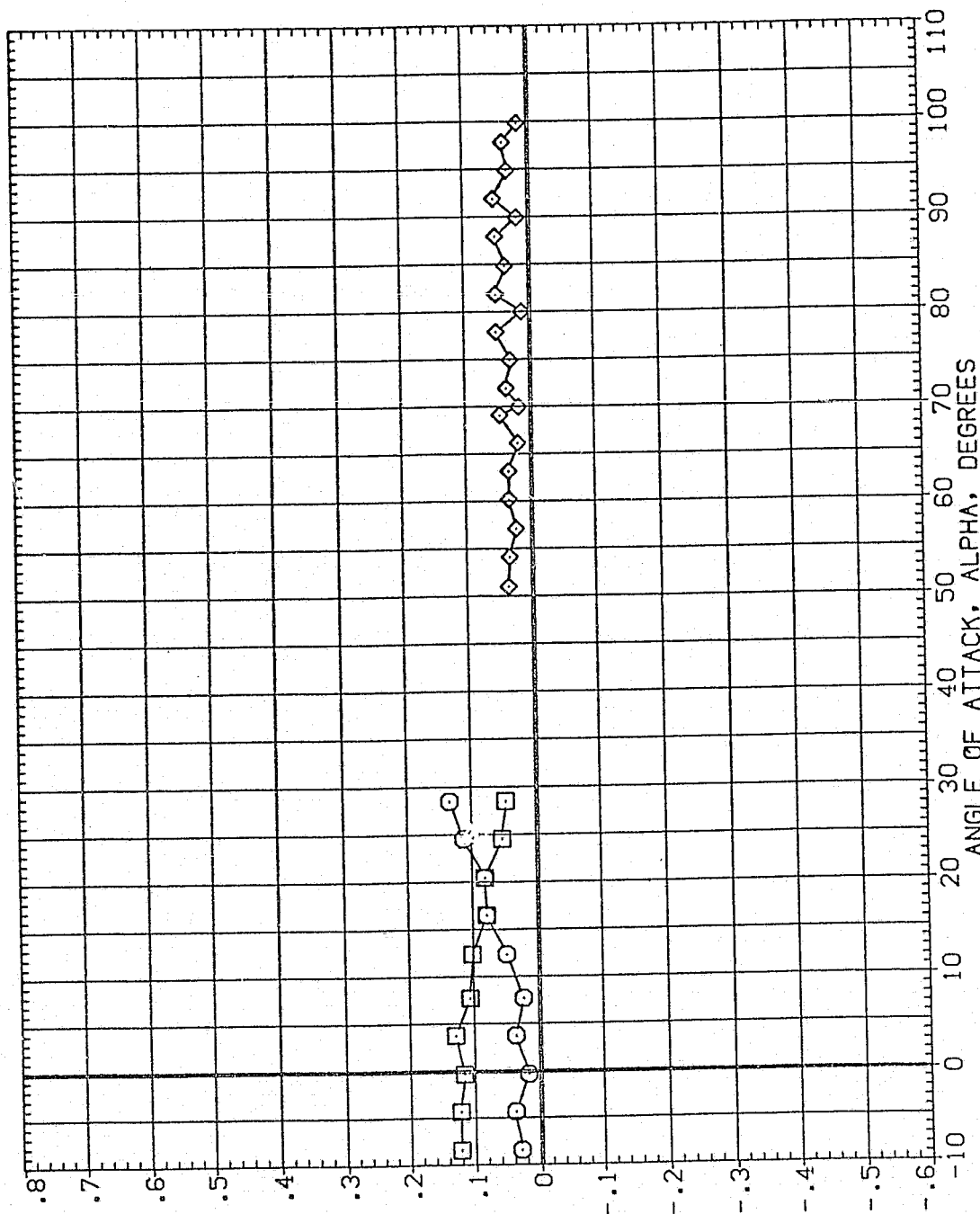
FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)  
CA/MACH = 4.96  
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DATA SET SYMBOL  
(J1A013)  
(J1A014)  
(J1A015)

CONFIGURATION DESCRIPTION  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2  
MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2

BETA PHI  
.000 270.000  
.000 315.000  
.000 .000

REFERENCE INFORMATION  
SREF 572.5550 SQ. FT  
LREF 324.0000 INCHES  
BREF 324.0000 INCHES  
XMRP 1086.4000 IN. X1  
YMRP .0000 IN. Y1  
ZMRP 400.0000 IN. Z1  
SCALE .0030



SIDE FORCE COEFFICIENT IN MISSILE AXIS, CYM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(A)MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A001)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	.000	SREF 572.5550 SO. FT
(J1A003)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	45.000	LREF 324.0000 INCHES
(J1A005)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1	.000	90.000	BREF 324.0000 INCHES
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2	.000	.000	XMRP 1086.4000 IN. XT
				YMRP .0000 IN. YT
				ZMRP 400.0000 IN. ZT
				SCALE .0030

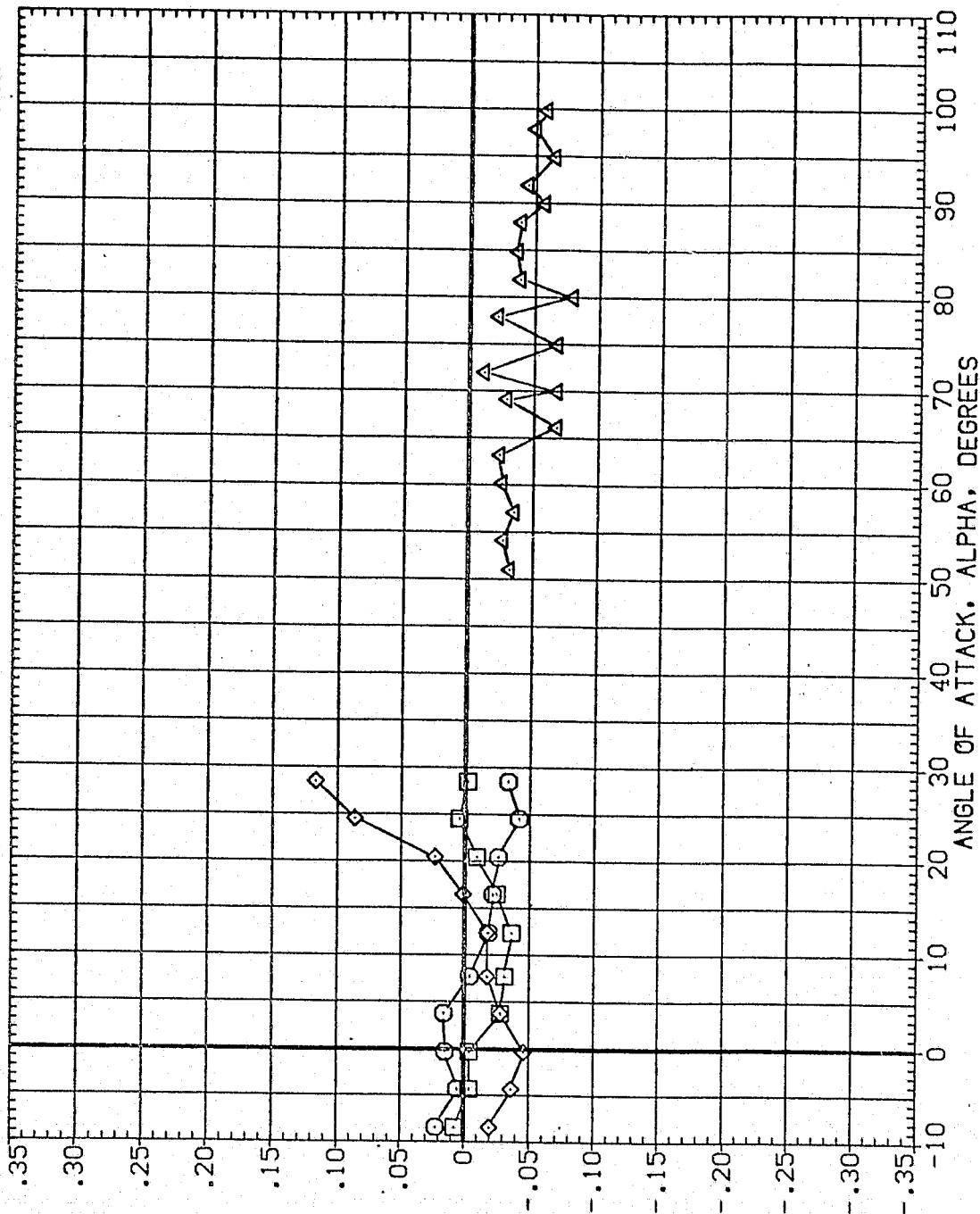


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(A)MACH = 4.96

REFERENCE INFORMATION

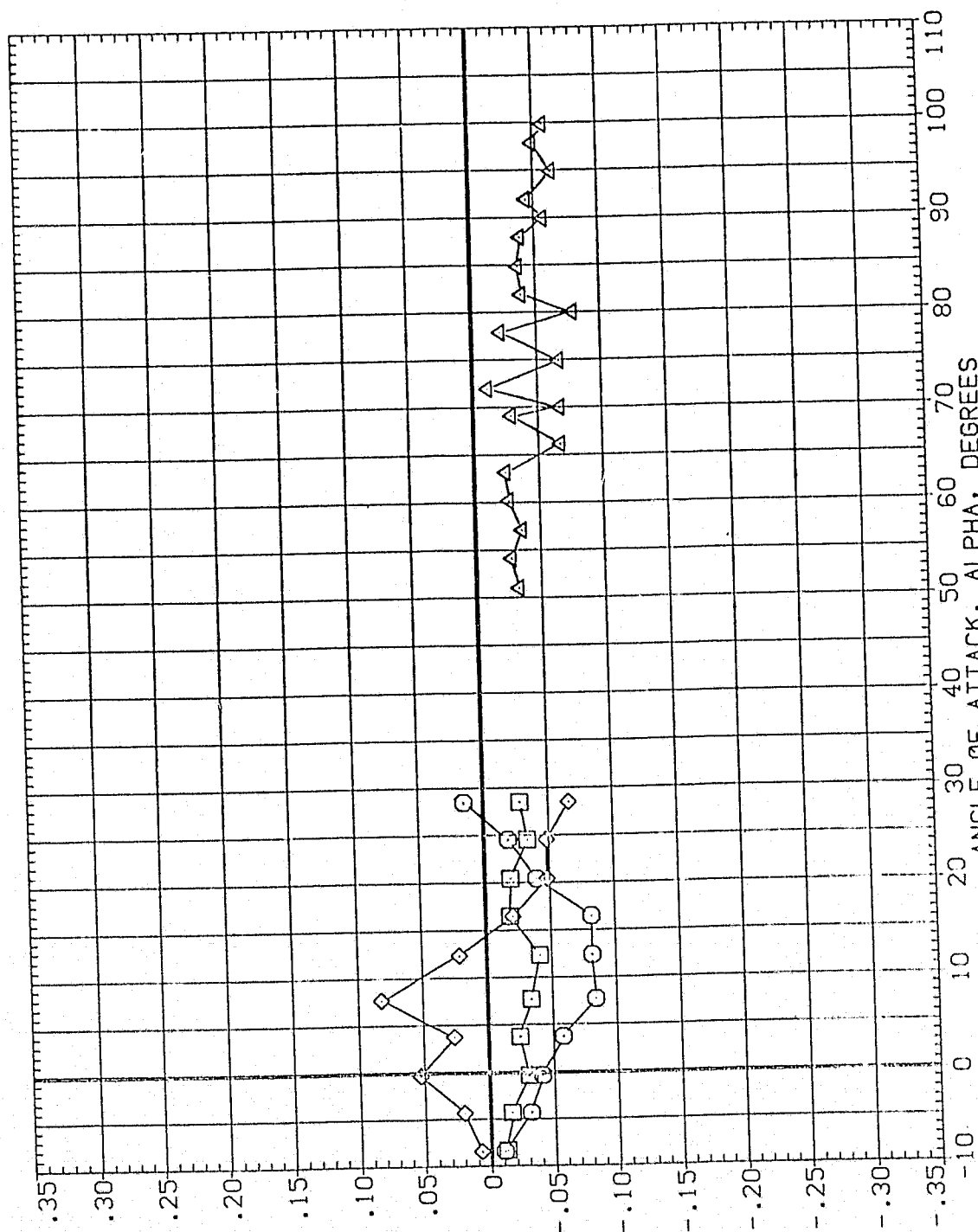
SREF	572.5550	SO. FT
LREF	324.0000	INCHES
BREF	324.0000	INCHES
XMRP	1036.4000	IN. X
YMRP	.0000	IN. Y
ZMRP	400.0000	IN. Z
SCALE	.0030	

BETA PHI

.000	135.000
.000	180.000
.000	225.000
.000	.000

DATA SET SYMBOL CONFIGURATION DESCRIPTION

(J1A007)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1
(J1A009)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1
(J1A011)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T1
(J1A015)	MSFC 596 (TA-2F) MCR0200 EXTERNAL TANK, T2



YAWING MOMENT COEFFICIENT IN MISSILE AXIS, CYM

FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

CAD MACH = 4.96

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	BETA	PHI	REFERENCE INFORMATION
(J1A013)	MSFC 596 (TA-2F) MCP3200 EXTERNAL TANK, T1	.000	270.000	SREF 572.5550
(J1A018)	MSFC 596 (TA-2F) MCP3200 EXTERNAL TANK, T1	.000	315.000	LREF 324.0000
(J1A015)	MSFC 596 (TA-2F) MCP3200 EXTERNAL TANK, T2	.000	.000	BREF 324.0000
				XMPP 1086.4000
				YREF .0000
				ZREF .0000
				SCALE 400.0000

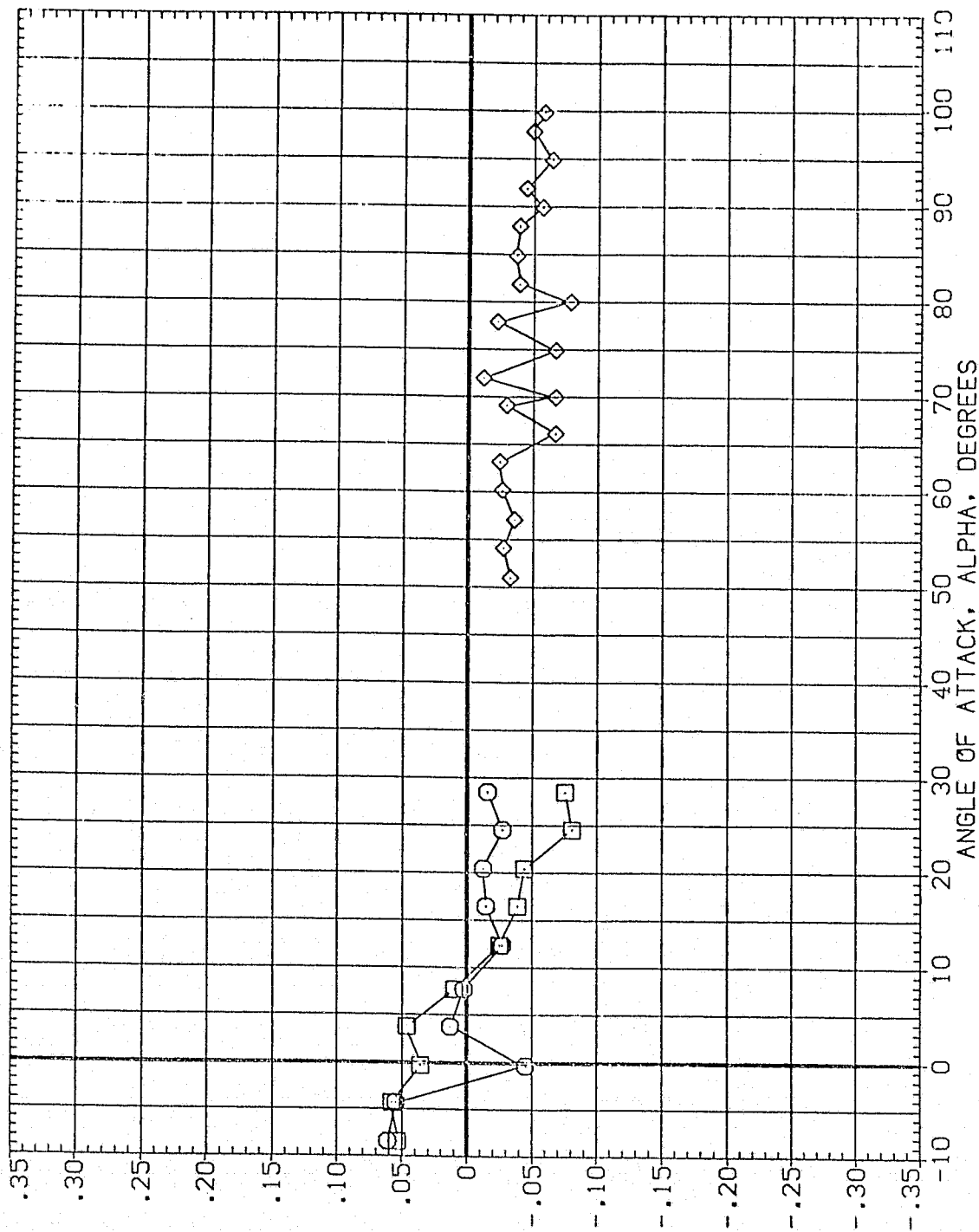


FIG. 12 STABILITY CHARACTERISTICS - WITH AND WITHOUT PROTUBERANCES (T1 - T2)

(AJMACH = 4.96